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An Address

ON

THE INFLUENCE OF PARENTAL ALCOHOLISM ON THE PHYSIQUE AND ABILITY OF OFFSPRING.

Delivered before the Society for the Study of Inebriety on Jan. 10th, 1911, in the Rooms of the Medical Society of London,

BY THEO. B. HYSLOP, M.D., C.M. EDIN., F.R.S. EDIN.,

PRESIDENT OF THE SOCIETY; LECTURER ON MENTAL DISEASE AND MENTAL PHYSIOLOGY AT ST. MARY'S HOSPITAL MEDICAL SCHOOOL; LATE RESIDENT PHYSICIAN AT BETHLEM ROYAL HOSPITAL.

[AFTER some introductory remarks, in which Dr. Hyslop avowed the sympathy of the Society for the Study of Inebriety with the aims of the Eugenics Laboratory, he stated:—]

THE PROBLEM.

I feel sure it is agreed that the problem we are met to discuss is not to be proved, or even advanced, by rhetoric, and, in my opinion, it is open to question whether it can be solved satisfactorily by statistics. *Does parental alcoholism—apart from parental degeneracy, which, together with a tendency to alcoholism, is heritable—influence the physique and ability of offspring?*

In order to answer this question we must, so far as is possible, first eliminate such sources of error as are due to the inclusion of side issues, indefiniteness of standards of alcoholism, health, and degeneracy, and we must correct our vague conceptions as to what really constitutes heredity. We ought also to equalise or exclude altogether such variations in environment as may possibly affect the germ-plasm of the parents or the offspring independent of the influence of alcohol itself. It is obvious, however, that it is well-nigh impossible to find a definite uniformity of phenomena on which to base statistics which shall be accurate in every particular. We cannot exclude all variations in environment, nor can we neglect the possibility of the intensification of degeneracy in successive generations due to a continuance of the same or different environmental defects.

In order the better to define our standards of parental degeneracy and alcoholism, it is important to note the sex, age at incidence, and evidences of inheritance, as well as the nature and degree of the defect. Needless to say, the environmental conditions should also be carefully noted. So far as the parental degeneracy and alcoholism are concerned, the Galton Laboratory researches have served the very useful purpose of bringing into prominence the *association*—in contradistinction to *causation*—of alcoholism and degeneration; but it must be confessed that the question as to which came first—the mental defect or the alcoholism—has not received such attention as is needed. As an asylum physician I am almost daily confronted with the difficulty of deciding as to which is cause and which is effect, and if, after full consideration of all the data available, it is well-nigh impossible to decide such an apparently elementary point, how much more difficult must it be to find sufficiently reliable data on which to base statistics! It is also to be noted that the tendency to degeneracy or alcoholism may be latent in the parent, and one or other of these defects may become manifest, owing to some accidental factor, either before or after the tendency has been transmitted to the offspring. This fact renders the question as to which came first—the alcoholism or the child—somewhat futile. At first I believed that parental alcoholism should invariably precede the birth of the child, but I have now come to see that such a stipulation would lead, not only to the suppression of half the truth, but even provide a source for error unless definite distinction were made between parental alcoholism *per se* and parental degeneration plus a psycho-neurotic tendency to alcoholism.

ALCOHOLISM AT CONCEPTION.

The occurrence of conception at some festival season, when acute alcoholism is rife, has provided some investigators with data for consideration. The assertion that alcohol at festivals is the source of imbecility in offspring is as yet, however, unproven. Undoubtedly, there may be an increase in the number of conceptions on such occasions, but I am not aware of any statistics which take into account the relationship of the alcohol to degeneracy in the parent, and the possibility of any ill results to the offspring being due to direct heredity has not, so far as I am aware, been adequately considered. In this connexion it must be noted that we know but little of the influences, alcoholic or otherwise, which determine conception; and, moreover, the parents are apt to shelve their responsibilities in such matters, and attribute defects in their offspring to some accidental or even fanciful cause. Certain it is that many of the poorer classes attribute the largeness of their families to the abuse of alcohol and the consequent loss of control and other considerations.

The earlier researches of Laitinen,[1] to which reference is made by the same observer in his Norman Kerr lecture[2] and further contribution to the proceedings of the last International Congress on Alcoholism, have been very freely and exhaustively criticised by others. That he made no distinction between parents, one of whom drank, or both of whom drank, provides Professor Karl Pearson and Miss Elderton with matter for self-congratulation, in that they themselves distinguished between the father and mother, and arrived at the conclusion that the drinking of the mother had more influence than the drinking of the father, and that, slight as was the effect, since it influenced girls more than it influenced boys, it was unlikely to have been due to toxic action on the fœtus. That the latter observers carried their observations a few steps farther than did Professor Laitinen cannot be denied, but, needless to say, this fact does not in itself render their conclusions any the more valid. Laitinen's previous researches on the effects of small quantities of alcohol on animals, and the degeneration which he claimed to have found in their offspring would, if correct, appear to have more direct bearing on the subject, inasmuch as it is not probable that the offspring inherited a parental neurosis or psychosis to which the effects of alcohol had been added and transmitted as such to the offspring. For our purposes we must merely take note of Laitinen's statement that the number of young of those animals that received alcohol was somewhat larger, but much weaker, than in the case of the young of animals not treated with alcohol. The truth of this statement will doubtless be fully investigated, and upon its verification much must necessarily depend.

For a long time past I have in many instances attributed mental and physical defects to parental alcoholism, but I must now confess that, after careful consideration of the data so much discussed by the members of the Eugenics Laboratory—Sir Victor Horsley, Dr. Saleeby, Dr. Basil Price, Dr. Demme, Dr. Bezzola, Dr. Laitinen, Dr. MacNicholl, and many others—I have endeavoured to discard my previous conceptions, and I have sought diligently for an instance of defect which I could honestly convince myself as being due solely and entirely to parental alcoholism. Formerly I regarded epilepsy, some forms of insanity, mental enfeeblement and defective inhibition, deaf-mutism and stunted growth, as being mainly due to parental alcoholism. All these conditions, however, fall under the category of defects in what has been aptly termed the "general controlling determinant," and I have as the outcome of much clinical experience imagined I could diagnose parental alcoholism from the symptoms evidenced in the offspring. Now I feel that I cannot truly satisfy myself that in any one case there had not been also other factors than alcohol at work, and that the symptoms in the offspring might possibly have been due to the direct inheritance of a neuro-psychosis as well as alcohol.

It is obvious that instances of defective germ plasm in the stock—which may evidence itself by alcoholic tendencies throughout the stock—are instances of heredity pure and

[1] Lecture delivered at the Anti-Alcohol Congress in Stockholm, 1907.

[2] See British Journal of Inebriety, October, 1909; and "Contribution to the Study of the Influence of Alcohol on the Degeneration of Human Offspring" (Proceedings of Twelfth International Congress on Alcoholism, 1909).

simple, and they ought, for the satisfactory solution of the problem before us, to be rigidly excluded. Such a process of exclusion, however, might result in the elucidation of but half the truth, and, as we shall see presently, in order to obtain the whole truth, the question does really involve the consideration of the degenerate and the problems of heredity.

The Eugenics Laboratory Memoir, No. X., did not profess to deal with the direct heredity of alcoholism. It concerned itself only with the offspring of the alcoholic as children. Of the results that drinking produces in the offspring it is stated with a certain degree of truth that "alcoholism in the parent may, like insanity, be the somatic mark of a defective germ plasm in the stock. The child is defective not because the parent is alcoholic, but because it is the product, like the parent, of a defective germ plasm. The child may be physically and mentally fit, and yet, when adult, exhibit alcoholic tendencies."

This contention does not include, or even refer to, the almost accepted assumption that alcoholism in the normal, as in the degenerate, parent is apt to lead to earlier alcoholism or degeneracy in the offspring. At present my experience leads me to the belief that parental alcoholism accentuates the downward trend, and with each successive generation the period of exemption from alcoholism and degeneracy is shortened, so that the offspring become alcoholic or degenerate at a relatively earlier age.

Doubtless, however, this will form the subject for some future memoir, and possibly it may be ascertained whether parental alcoholism in the degenerate does or does not modify, diminish, or intensify the evidences of defective germ plasm in the stock—i.e., does parental alcoholism alter the character or degree of the inherited degeneracy in the offspring? It would seem to me that alcohol as a complementary factor to parental degeneracy does aid in the devolution of the stock, and it is upon families which are prone to degeneracy that alcohol appears to put the finishing touches and renders the physique and ability of the offspring more and more unsatisfactory with each successive generation.

Certain it is that nature does not permit any prolonged departure from its laws of health and the trend of evolution, as shown by the tendencies for neuroses and psychoses to spread and ultimately wear themselves out in the course of time and with successive generations. This law holds good so long as other complicating factors, such as alcohol, do not add to the burden, and by attacking the more or less attenuated neuroses or psychoses, keep them alight and thereby frustrate the efforts of nature to render them abortive. Alcohol, as we all know, will readily set alight and determine the existence of a neurosis or psychosis which might otherwise be on the wane; and not only does it affect the individual and intensify his degeneracy, but it is also open to belief that it renders the offspring more liable to suffer from the transmission of such degeneracy, not only in its parental intensity, but also to be manifested at an earlier age in the progeny.

In the last report from the Galton Laboratory claim is made that alcohol is, in its *pernicious* forms, consequent on, and not antecedent to, mental defect. This may be true, and if rightly understood and supplemented by an account of the influence of alcohol in intensifying an already existing nervous defect, it can do no harm to the cause of temperance. That it is the aim of the previous memoir to prove that alcohol may be taken with impunity no one with any sense of justice will contend; nor need it be imagined that alcohol is in any sense regarded as being capable of aiding the onward and upward trend of biological evolution. Referring as it does to pernicious forms of alcoholism, it is, of course, hardly likely to take cognisance of any statistics based upon the consumption of one glass of beer per day.

"One man's food, another man's poison," refers to alcohol as much as it does to any other article of consumption, and it is indeed difficult to differentiate the degrees of alcoholism. Another matter about which there has been much contention, yet which has not yet been referred to in its true bearings, is the fact that in asylum practice it is comparatively seldom that we find the various lesions so common to alcoholism in the sane. The reason for this may possibly be that alcohol selects for attack the least stable of the bodily systems in a given individual. The system may be, by its inherent weakness, more susceptible to attack, or it may be less able to eliminate from its substance the effects of toxic action. Whichever way we look at the question, however, it must be conceded that the pathological findings in the insane are in favour of the Galton theorists, and it is difficult to conceive any other explanation of the selective action of alcohol other than by the inherent weakness of the nervous system, as is found in inherited degeneracy.

It is impossible for me to deal with all the points at issue both with regard to parents and offspring and their environmental relations, so I conclude by stating that in my humble opinion it would serve our purpose best could we but find well-defined and accurate instances in which defect in the child could be proved to be due to parental alcoholism without the aid of any other causal factor, such as degeneration or faulty environment. Until this can be done, and until we can multiply such instances, any statistics we may compile can only help us to make hazardous half-guesses, which may lead to misinterpretation and the spreading of doctrines and lines of action which may be for the good or ill of the community.

General Conclusions.

1. It is easy to make a tangle of a skein of silk, and nothing is easier than to employ destructive criticism to any theory which may be propounded in reference to the influence of parental alcoholism on the physique and ability of offspring.

2. The theory briefly stated is, Does parental alcoholism (of a pernicious kind)—apart from parental degeneracy, which, together with a tendency to alcoholism, is hereditable—influence the physique and ability of offspring?

3. It is practically impossible to exclude side-issues, variations in standards of health, alcoholism, and degeneracy from consideration, and we have as yet but imperfect conceptions as to what is meant by heredity. Hence we cannot obtain sufficiently accurate data for statistical purposes.

4. The *association*—in contra-distinction to *causation*—of alcoholism and degeneration in the parent is insufficiently understood, and the difficulty in distinguishing between cause and effect, both in the parent and offspring, is so great that the decision must be frequently mere guesswork.

5. The present problem requires that parental alcoholism shall precede conception or the birth of the child; whereas, in the transmission of a psychoneurosis by direct inheritance, the parental alcoholic tendency may be latent, and not come into evidence until after the birth of the child. This necessitates complete differentiation between the two series.

6. Alcoholism would appear to be responsible for a relatively greater number of births than would health or degeneracy without alcoholism, and there appears to be some evidence derived from experiments on animals treated by alcohol that their young, although in greater number, were much weaker.

7. Epilepsy, some forms of insanity, defective inhibition and mental enfeeblement, deaf-mutism and stunted growth, although instances of what has been aptly termed the "general controlling determinant," and transmitted by direct heredity, are apt to be not only intensified in the offspring, but they make their appearance at a relatively earlier age, when parental alcoholism has been an additional factor.

8. Parental alcoholism does appear to accentuate the downward trend of inherited psychoneurosis, and with each successive generation the period of exemption from alcoholism and degeneracy becomes shortened, so that the offspring become alcoholic or degenerate at relatively earlier ages. Alcohol would in this way act as a complementary factor to parental degeneracy, and aid in the devolution of the stock.

9. The inheritance of a psychoneurosis (which would tend to diminish in severity with each successive generation, and with the introduction of new correcting influences through marriage) becomes intensified and prolonged when alcoholism becomes a complicating factor. In this way the psychoneurosis is kept alight through a greater number of generations.

10. The conclusions arrived at by the Galton Laboratory School of Eugenics and their critics deal with part only of the general question at issue, and when further investigations shall have demonstrated the influence of parental alcoholism on parental degeneracy, and the combined influence on the physique and ability of offspring, we shall be better able to speak with authority for the guidance of the community.

An Address
ON
THE RÔLE OF SEPSIS AND OF ANTISEPSIS IN MEDICINE.

Delivered at the Opening of the Session of the Faculty of Medicine of McGill University, Montreal, on Oct. 3rd, 1910,[1]

BY WILLIAM HUNTER, M.D. EDIN., F.R.C.P. LOND.,

PHYSICIAN AND LECTURER ON PATHOLOGY TO THE CHARING CROSS HOSPITAL, LONDON; PHYSICIAN TO THE LONDON FEVER HOSPITAL.

[AN introductory section of the address dealt with the objects of medical education.]

MEDICAL SEPSIS AND MEDICAL ANTISEPSIS.

After these prefatory remarks regarding the objects of your present studies, I pass on to the subject which I have selected as the special theme on which I desire to address you to-day. That theme is the great part played by Septic Infection—prevalent, potent, easily observed and accessible to treatment, nevertheless continuously overlooked and neglected—as an important cause and complication of a whole range of medical diseases. I have selected it not only because of its great practical importance to you in your medical work in after life, but also because the story of its recognition as a great factor in causing disease illustrates in a striking way the truth of what I have just said about the importance of small things in medicine—their observation and interpretation.

For it was while seeking to throw light on the origin and meaning of a piece of blood pigment present in an organ in the first case I ever examined for curiosity's sake, that I stumbled upon the chief subject and interest of my life's work—namely that of anæmia. And it was while observing as fully as I could all the features of the first case of anæmia which I ever studied clinically that I came upon the curious facts that ultimately led me to recognise the importance of sepsis in medicine not only in producing anæmia, but also many other medical affections.

I spent some five years (1885–1890) in experimental and pathological work in trying to explain the meaning of that piece of pigment, and some ten years (1890–1900) in trying to explain the features presented by that one clinical case. And *then I saw*, but not till then—what I have since endeavoured to describe in various papers from 1900 onwards up to the present time regarding the rôle of sepsis in medicine and the importance of oral sepsis as its chief cause.

I desire now to draw your attention to the great province concerned with the action of septic infection in medicine as one deserving your attention as much as sepsis in the great domain of surgery. Like the great North-West Territories of your own land, this province of sepsis in medicine has been with us all the time, awaiting only a fitting recognition and exploitation of its great resources. It is, as yet, but sparsely populated; workers and settlers in it are but few, though they have been steadily drifting into it during the last ten years, first one by one and more recently by scores and hundreds; and already many of these have sent back encouraging and even glowing accounts of its resources. But the field is so large and the work in it is so great that its resources will not be fully exploited till the workers in it include the whole profession, prepared, if necessary, to identify themselves with it by taking the name of this great province of their work. For like many of your territories, it has remained until now without even a definite name. That name I propose now to give it, so that even if you pass it by and are not attracted by its prospects you will at least from henceforth know what portion of the great domain of medicine is meant by it.

Time was, and I am old enough to recall it, when the greatest honour that could be paid a surgeon was to term him a brilliant operator and to expatiate upon the rapidity with which he could carry out a particular operation. Time is, and long has been, when the title which a surgeon is proudest of is that of an "antiseptic surgeon." Possessing the knowledge, the training, and the experience that entitle him to that name, he knows that it is possible for him to become a successful surgeon; he is a worker in the field of "*antiseptic surgery*."

Time, in my opinion, has now come—or if not already come is fast approaching—when the title of "Antiseptic Physician" will become equally distinctive of a good doctor; when it will be equally honoured and honourable as that of "Antiseptic Surgeon" now in the case of the surgeon; when the knowledge and outlook which it implies in regard to the importance of sepsis in medicine will be deemed one of the highest qualifications which a good doctor could possess; when, in short, "Antiseptic Medicine"—the fight against sepsis in medicine—will come to have as distinct a meaning in relation to sepsis in medicine as "Antiseptic Surgery" has in relation to sepsis in surgery; when a knowledge of the principles and practice of "Antiseptic Medicine" will be deemed as essential and necessary to the physician as a knowledge of the principles and practice of antiseptic surgery is now essential to the surgeon. What these principles are it will be the purpose of this address to bring to your notice. They are deeply rooted in the knowledge and experience which it is the purpose of your present studies to give you.

PRINCIPLES OF ANTISEPTIC SURGERY.

The word "principle" which I have here employed is in common use in medicine. We speak of the principles of surgery, of medicine, of treatment, of pathology. In the sense in which it is thus employed the word means the essentialness, essential part of, important part, quintessence, pith, backbone, marrow, heart, and soul of these subects. It includes not only the *facts*, but also some reference to the *reasoning*-grounds, way of thinking, reflection, conclusion, judgment, motive, springs of action that determine the action we take upon these facts.

If any of you, even the youngest, were asked by a layman what the "principles" of antiseptic surgery were he would probably not be able to give the whole facts and the whole chain of reasoning, observation, and experience on which the practice of antiseptic surgery is based. Even with the limited experience he possesses he would, if he were a wise student, be more likely to reply that the chief principle of antiseptic surgery is, of course, that organisms cause fever, inflammation, suppuration, &c., and hence the necessity for all the surgical precautions and the elaborate surgical ritual witnessed from day to day in the surgical work.

The motives and the grounds for antiseptic surgery are very clear and obvious, and are demonstrated daily in his surgical work. They are thrust upon his notice ever moment of his surgical life; they are driven into him by the whole teaching and surroundings of his surgical work. He lives in a very atmosphere of worship of Antisepsis; he conducts services at her shrine; he places offerings of clean hands and a pure antiseptic conscience and behaviour on her altars. Figuratively, if not actually, he sees in flaming characters written above the doors of her Holy of Holies—the operation theatre—the words—

"Abandon Sepsis all ye who enter here."

And even if this escapes his notice the janitor who guards the door is there to remind him:

"Put on thy shoes, for the place on which thou enterest is antiseptic ground."

Is this ritual connected with surgical antisepsis overdone? Are its surroundings too ornate—its practice too ceremonial, its services too elaborate, its vestments and mitres too striking? I think not, *if* the surgeon or doctor carries these antiseptic principles into practice wherever he meets with sepsis. On the contrary, they are educational to a degree. No shrine in connexion with modern scientific medicine and practice appeals more to the imagination than that constituted by a modern operating theatre. In no department of the whole field of modern medicine are its services to humanity so faithfully, so loyally, so scrupulously and exactly rendered as in that spot dedicated to antiseptic surgery.

What is the object of this whole elaborate ritual of observant practice? It is designed primarily for one great purpose—to prevent the access of organisms into the wounds which the surgeon has necessarily to make in the course of

[1] The delay in publication of the address has been due to the absence of the author in America and Canada for some time after its delivery.

his surgical work. To avoid such an occurrence—such a catastrophe, as he would deem it—the surgeon takes every possible precaution that knowledge and experience suggest to him. No precaution is too minute, no duty, however trivial, appears to him as such in the attainment of his great object. He renders these services, he observes these precautions as faithfully and as strictly in the case of the outcast admitted from the poorest slum as he would to the highest personage in the land.

In the early days of antiseptic surgery the ritual was different, for the principles underlying it were also different. It was at first sight thought that organisms of any kind might produce the untoward results which the surgeon feared; hence the first observances of antiseptic surgery—the use of spraying during the operation and the elaborate and repeated dressings necessitated during the subsequent healing of the wound.

It is now known that the organisms which the surgeon has most to fear are not those in the air, but those present (staphylococci and streptococci) on the patient's skin, or on his own fingers, or on the instruments which he employs. His procedure is therefore now directed primarily, not against the organisms of the air—although precautions against these are involved in the arrangements he makes for the ventilation of his operating theatre; nor yet primarily against the introduction of organisms from the walls and floors, although that source is also scrupulously kept in view in the plans he accepts for his floors and ceilings and walls, and in the ritual he observes in his work.

The full force of his precautions is directed against the introduction of septic organisms into his wound conveyed by his own fingers or those of his assistants, or by his instruments. If he has an untoward result where he confidently expected a successful one, if fever occurs or his wound suppurates without obvious cause, his suspicions, if he is a good surgeon, would probably fall first upon his own fingers, secondly upon those of his assistants, thirdly upon his instruments, and fourthly, or lastly, upon the air in the theatre. If he were a bad surgeon the order of suspicion would be reversed.

You will note that the whole procedure of the antiseptic surgeon is directed against the introduction of organisms into the body as the result of his own operation; or, at least against their conveyance from places where they are already present—e.g., the intestine—into cavities such as the peritoneum, where their effects might be serious or fatal. His responsibility, in short, so far as preventing the access of organisms into the body, begins and ends there. If they gain access through his wounds, through the failure of any precautions on his part, he is responsible, and no one feels this responsibility more than he does. If, however, the organisms are already in the body, as they frequently are in abscesses and suppurations connected with the bones, joints, stomach, intestines, liver, kidney, and other organs which he is called on to relieve by operation, he is only responsible for seeing that, so far as he can help, the organisms shall not be conveyed by his procedure into adjacent parts. He is not—he considers—responsible for their original access to the parts where they are causing trouble. That is a *medical* or *pathological* matter with which he is not primarily concerned, and with which he cannot deal. And yet unknown to him, and unnoted by him, he may be allowing his patient to retain a degree of sepsis (in the mouth) which would receive his immediate attention were it found anywhere else (e.g., Cases 1–6).

SEPSIS IN MEDICINE.

I have dwelt on this point—the extreme ritualistic regard which the surgeon shows towards sepsis in surgery; for I wish to contrast it with the attitude of the medical profession towards the same (staphylococcal and streptococcal) sepsis in medicine—i.e., in medical diseases.

That attitude is a very curious one, as will presently appear. If a doctor were asked what it was he would probably say that it differed in no way from that shown towards it in surgery. He was as keen to discover and remove sepsis and its various suppurative and necrotic effects in the domain of medicine—e.g., in connexion with the throat, pharynx, stomach, duodenum, gall-bladder, liver, cæcum, appendix, colon or rectum, pelvis of kidney, the brain, the pleura and the lungs, the glands, &c., or failing the presence of actual pus he was as keen and observant about the presence or absence of streptococci in the blood in cases of obscure blood poisonings, septicæmias, ulcerative endocarditis, &c., as the surgeon was in the surgical domain. He could even point out that so much was this the case that these various regions of the body had been largely divided up among specialists, who devoted the greater part of their time to dealing with the various affections of these parts—among these affections septic infection being one of the commonest and most important. In short, his attitude towards sepsis in medicine, he would maintain, was precisely the same observant one as he was taught to show towards it in surgery. The only difference between the two cases, he might point out, was the unfortunate one—viz., that the sepsis he found in medicine was not so easily got at or so easily removeable as it happily was in the domain of External Surgery. But, as we saw, the regard which the surgeon shows towards sepsis in the domain of surgery is not confined to its removal when present. It has another and far greater object—namely, its prevention. It is not so much in the removal as in the prevention of sepsis that surgical antisepsis has won its great triumphs.

APPARENT RÔLE.

If the doctor were asked how the matter stood with regard to the *prevention of medical sepsis*, he would probably say that that was a matter he unfortunately could not control. These septic suppurations unfortunately occurred in medicine as complications of various medical diseases; in fact, they were often the essential features of these diseases, or actually constituted them—perforations, appendicitis, empyema, liver abscess, cholecystitis, glandular abscesses, septicæmia, ulcerative endocarditis, &c. The occurrence of these grave septic conditions, whether local or general, depended upon the state of health of the parts affected or of the body as a whole; and the factors concerned in giving rise to them were therefore as many and as various as the many and various local or general factors affecting the health of the particular organ, or of the body as a whole. Staphylococcal and streptococcal organisms were always in the body—e.g., the intestinal canal. It was unfortunately impossible to prevent them getting access now and again into other organs or into the blood. In any case, however common the above-named septic conditions might be, they were, after all, rare in comparison with the medical diseases with which he had to deal, of which they were only occasional complications or sequelæ. When they did occur they were matters for the surgeon—not for him. He found sufficient scope for his own work among the more purely medical complaints and illnesses of his patients—the various conditions of general ill-health presented by his patients; the malnutrition, the tonsillitic, naso-pharyngeal and glandular troubles of younger children; the dyspepsias, indigestions, gastric and duodenal ulcers, intestinal catarrhs and ulcerations, and liver disturbances of his older patients; their subacute and chronic rheumatic troubles; the simpler anæmias of young girls which usually yielded easily to treatment, although they sometimes were curiously resistant to treatment; the much more severe and troublesome anæmias of the middle and older periods of life; the multitude of their nervous complaints; their fevers of known nature (influenza or scarlet fever, diphtheria, typhoid, measles, &c.), and their complications; still more, the fevers of unknown or obscure nature which they occasionally suffered from and were so troublesome both in diagnosis and in treatment.

These and other affections of a like kind were numerous and troublesome enough to occupy all his time and call for all his powers of diagnosis and all his skill in treatment by appropriate medicinal and dietetic measures. They took in the medical sphere the place and importance that sepsis and its prevention took in the surgical sphere.

Complications of a septic nature sometimes occurred in connexion with some of them. These called for the help of the surgeon. To the surgeon septic infection was an all-important factor of disease. The doctor, worried to death with the multitudinous complaints of his patients and the apparently multitudinous and obscure causes underlying them, might often feel envious—if he cared to be so—of the surgeon's easier task in having to deal so much and so successfully with the removal or prevention of one well-defined infection—septic infection. If only he were able to prevent the causes of his patient's troubles as quickly and as effectively as the surgeon prevents or gets rid of sepsis, his

work in medicine, he might well say, would be a simpler and more interesting work both to his patients and to himself than it now is. Alas, however, from the point of view of prevention, the medical diseases with which he had to deal arose from many causes connected with the habits of life and surroundings of the patients—difficult to ascertain, and when ascertained not so easily preventable or removeable as the great factor of septic infection in surgery.

Sepsis in surgery, its action, prevention, or removal, was the greatest "principle" of pathology and practice with which the surgeon had to deal. Sepsis in medicine was a causal factor of altogether subsidiary importance; it was only one of many others. Even when it was present it was in most cases, if not in all, only a complication of other diseases, not its primary cause. It was an accident—a "terminal complication" of some other and more important disease.

ACTUAL RÔLE.

Now, it is with this whole conception of the sphere of activity and importance of sepsis in medicine that my whole work for many years joins issue. What I wish to say to you to-day is that the above conclusions regarding its importance do not in my experience represent even approximately the actual pathological and clinical facts of the case.

In my clinical experience septic infection is without exception the most prevalent infection operating in medicine, and a most important and prevalent cause and complication of many medical diseases. Its ill-effects are widespread and extend to all systems of the body. The relations between these effects and the sepsis that causes them are constantly overlooked, because the existence of the sepsis is itself overlooked. For the chief seat of that sepsis is the mouth; and the sepsis itself, when noted, is erroneously regarded as the results of various conditions of ill-health with which it is associated—not, as it really is, an important cause or complication.

The causal connexion between the two sets of processes—the sepsis and its ill-effects—can be demonstrated by the simple expedient of removing the sepsis, and noting the striking effect which the removal has upon the existence, character, and intensity of the ill-effects. The ill-effects referred to include in individual cases every one of the diseases described in the foregoing section, and regarded as essentially medical in their character—viz., the general ill-health, dirty, sallow complexions, the indigestions, the gastric and intestinal troubles, the anæmias which resist treatment; tonsillitic, pharyngeal and glandular troubles of children; the chronic rheumatisms; obscure fevers, and blood poisonings, &c.

The effects are not the same in all cases, any more than are the effects of septic infection in surgery or those of tuberculous infection in medicine. They affect sometimes one system and sometimes another, in different degrees according to the individual susceptibility, just as a chronic tuberculous infection may in one case affect the glands of the neck, in another the joints, in another the bone, in another the lung, in another the meninges, in another the peritoneum, and in another it may affect them all.

So with this septic infection in medicine, the effects fall sometimes more on the tonsils, pharynx, or glands of the neck; sometimes more on the stomach, intestine, and colon; sometimes more on the blood, causing anæmia, purpuras, chronic septicæmias, obscure fever; sometimes more on the joints, causing so-called rheumatic trouble; sometimes more on the nervous system, or on the kidneys; and sometimes it falls in a fulminating way upon the blood as a whole, causing a general infection with streptococci with or without infective endocarditis.

The sum-total of ill-effects which it produces—of the ill-health and incapacity occasioned by its presence—is very great. It is greater in my observation than that produced by any other single factor in medicine, or by any other single infection operating in general medicine.

Sepsis in medicine therefore ranks, in my experience, as the most prevalent and potent infective disease in the body. It therefore deserves the particular attention of the whole profession, as much as it has hitherto received their particular neglect. It requires this attention at the hands of every branch of the profession. But it concerns especially the medical profession—the doctor whom the patient first consults. The responsibility for first detecting its existence, or realising its significance as a potential cause or complication of the patient's disease, or of applying the first measures of treatment—all devolve upon him. It is his opinion and interpretation that will determine the degree of importance which the patient will attach to his condition. If he belittles what he sees, or, what is even more common, if he fails to observe by close examination what lies before his eyes, the patient will not receive the advice or treatment he needs, and he will not allow others to give it to him.

"ORAL SEPSIS."

In the foregoing sketch of the chief spheres of the doctor's work and interest I omitted any reference to one other portion of the body which constantly comes under his observation—indeed, more often than any other; I mean the mouth. This omission was intentional on my part. The cases presently to be described—which could be multiplied by thousands and tens of thousands coming under the daily notice of doctors—illustrate how constant this omission is in practice.

There is no part of the human body more commonly looked into by the doctor than the mouth. He looks at the tongue of every patient he sees, and learns much from its condition. It is notoriously a very unruly member, in more ways than one. It constantly "gives away" its owner in the ordinary affairs of his life, and it does the same in the matter of his diseases. For it yields the doctor most instructive and important information regarding the bodily health—the condition of digestion and the general health.

When looking into the mouth of his patients the doctor has often occasion to note incidentally the presence of defective or decayed teeth, as a general accompaniment and apparently as a part result of the poor health, poor nutrition, or wasting diseases from which they suffer. These defects of the teeth are so common that he has ceased to worry about them. He has often asked his patients, How can they expect their digestion to be good? What else but indigestion can they expect if they will not have their "teeth put in order" by the dentist, or get the dentist to supply new ones. How can they expect to masticate their food properly with such defective teeth? But, as he may sorrowfully add, patients are "hopeless" in this matter; they will not "attend to" their teeth; not only so, they are also actually "touchy" on the subject. The patient is quite willing to describe and discuss with the doctor all his other troubles and complaints, to which, as he says, he is a "martyr"—his indigestions, headaches, liver troubles, his rheumatism, his gout, and his "neuritis." But the subject of his teeth is his own affair—one between himself and his dentist. And the doctor regards it as such. "It is a matter of teeth and dentistry," with which he cannot deal.

What I desire to impress upon you students, and all students entering the profession, and all those already engaged in the practice of the profession, is, it is "not a matter of teeth and dentistry." It is an all-important matter of sepsis and antisepsis that concerns every branch of the medical profession, and concerns very closely the public health of the community. It is not a simple matter of "neglect of the teeth" by the patient, as is so commonly stated, but one of neglect of a great infection by the profession—a great infective disease for which the patient is not primarily responsible any more than he is responsible for the contraction of typhoid fever or tuberculosis. The condition referred to is that to which I have given the name of "oral sepsis."

The title "oral sepsis" was first introduced into medical literature in a paper entitled, "Oral Sepsis as a Cause of Disease."[2] My object in seeking for a special name, and after consideration in creating this one, was to emphasise the great fact that it is not the absence of teeth but the presence of sepsis, that it is not dental defects but septic effects, that it is not defective mastication but the effective sepsis associated with such dental defects or often present in conditions of gingivitis apart from such defects, that are responsible for the ill-health associated with "bad" mouths.

The second object was to emphasise the importance of the infection caused by staphylococcal and streptococcal organisms, as distinguished from the purely saprophytic infections in which the mouth abounds; or the temporary presence of specific organisms—e.g., typhoid, tubercle, pneumonia, &c.

The subject of "oral sepsis," as I designated and defined

[2] Brit. Med. Jour., July, 1900.

it—namely, the septic lesions of streptococcal and staphylococcal infection found in the mouth—belongs to no one department of medicine or surgery. It is common ground on which the general doctor, physician, or surgeon; the throat, nose and ear, and eye specialist; specialists in children's diseases, in stomach diseases, in blood diseases, in "rheumatic" diseases, in fevers, in skin diseases, in nervous and mental diseases, and, lastly, the dental surgeon, all meet on terms of equal responsibility. In its earliest manifestations no special knowledge is required to deal with it; a sound grasp of the principles underlying antisepsis alone is required. Unfortunately for the patient, it is precisely this grasp which I grieve to say is wanting.

One would think poorly of a surgeon or doctor who declined to take the responsibility of treating a follicular (that is, a "septic") tonsillitis, but insisted on handing over the case to a throat specialist, or who allowed a patient to suck continuously a number of septic sores on his finger. I think no less poorly of any doctor or surgeon who declines to make himself responsible for the treatment of much of the oral sepsis presented by many of his cases. For this is what patients are constantly doing. Wherein consists the pathological difference between a follicular tonsillitis and a foul, septic suppurating condition of the gums, with deposition of calcareous "crusts and scabs" (so-called tartar), covering and hiding septic wounds and ulcers—loaded, as microscopic examination shows, with staphylococci and streptococci. None whatever, except that the latter is exceedingly common and the tonsillitis is comparatively rare. The pathological condition in both is the same—namely, sepsis. Moreover, it is a sepsis as easily recognised and much of it as easily removed in the case of the one as in that of the other, and the more urgently requiring to be removed since it is more important as a potential disease factor than any other source of sepsis in the body.

But, it is urged, the condition is so common that it is impossible either to prevent it or to deal with it successfully; further, the ill-effects are few and rare compared with the wide prevalence of the condition. As I originally showed (1900), and my further experience of the last ten years, supported by that of many others, fully demonstrates, the ill-effects are both common and grave. That they are not more common is due solely to the great resisting power possessed by the mucosa of the mouth and gums.

This matter of oral sepsis is, therefore, of urgent importance in relation to the whole multifarious and widespread group of affections—medical, surgical, and dental—caused by the actual presence or toxic action of pyogenic organisms (staphylococci and streptococci).

My clinical experience satisfies me that if oral sepsis (and naso-pharyngeal) could be successfully excluded, the other channels by which "medical sepsis" gains entrance into the body might almost be ignored. Sepsis as an important and prevalent cause of disease in medicine would almost cease to exist, instead of being, as in my judgment it is at the present time, a more important and prevalent cause of disease in the domain of medicine than it is in that of surgery. Time was when the positions were reversed—when sepsis was so prevalent in the surgical wards that it overflowed into the medical wards in the form of some of its effects—for example, amyloid disease of kidney and liver and intestine. Now the relations are otherwise. In the form of the various affections above mentioned the greatest variety and most severe manifestations of sepsis and its effects are, in my experience, to be found in medical wards, whence they overflow (in the form of appendicular, gall-bladder, pleuritic, pyelitic inflammation, and suppurations) into the surgical wards.

It is, of course, impossible to keep staphylococci and streptococci out of the mouth, just as it is impossible to prevent occasional access of diphtheria, typhoid, pneumococcus, tubercle, and other infections. But that fact does not deter us from taking the most extensive sanitary and hygienic precautions to keep typhoid or tubercle infection out of the water or milk we drink or the air we breathe. I am satisfied that by suitable measures this far greater evil of oral sepsis could be largely prevented.

I submit, then, once more—as I did in the first communications (1900) and later papers (1903) bearing the title of "Oral Sepsis"—that in the interests of the many sufferers from the great group of medical affections which it produces this condition of oral sepsis, the chief channel of access of all pyogenic affections, is urgently deserving of increased notice and attention. Knowing as we do the pathogenic qualities of staphylococci and streptococci, we have not the slightest excuse for allowing the mouth, so easily accessible to local measures, to remain the chief seat of its open wounds and a veritable hotbed for their development and propagation; on the contrary, it is a severe reflection on our profession if we allow it.

Even if the teeth were not subject to a very marked septic infective process—that which we term caries and cario-necrosis—and always remained intact except in so far as they were affected by the septic infection in the gums and in the periosteum of the sockets, the infective processes in the gums constitute very important septic wounds and are a great source of sepsis to the body. As a matter of experience this is often the case. The teeth remain intact or at least free from obvious caries or cario-necrosis; but the gums and periosteum of the sockets are the seat of numerous septic wounds. These effects are shown by septic suppuration, by deposit of tartar, sometimes in great masses on the teeth, on the gum margin and beneath the gum margins, by the formation of pockets (septic ulceration of periodonteum—periostitis), absorption of bone, and loosening of the teeth in their sockets.

All these conditions are very obvious to the doctor if looked for and observed, and they are very septic and productive of some of the worst septic effects on the bodily health. But in many cases they need not be so obvious. For the septic infection may be confined almost exclusively to the periodonteum (periosteum) of the sockets, and be evidenced only by ulceration of that membrane, pocket formation, loosening of the teeth, suppuration—sometimes, however, by very slight suppuration.

It is in poor patients that these septic conditions are most common. They have had "no care" of their mouths—their fate is the relatively happier one of having their septic roots lying exposed in all their nakedness surrounded with tartar, overgrown it may be by foul, septic, fungating gums. This sepsis is relatively open and above board—it stares one in the face when it is looked for. At the worst it is covered by plates—which they have been told not to remove (!)—covering septic roots—which they have been told to keep (!), in order to prevent any falling in of the gums. The conditions in these cases, atrociously septic as they are, are comparatively easily dealt with, for they can be seen and recognised; and even if the patient refuses to have his roots removed much of the sepsis is superficial and can be got at and removed by careful daily swabbing with antiseptic lotions. And if this can be done regularly the patient may ultimately be induced to have the septic root removed.

But the problem presented by similar conditions in private patients is a much more difficult one. One of the worst cases of sepsis I have ever seen was brought me by a doctor who told me that the mouth had been "carefully seen to and was in good order." The patient was a tall, handsome man in the prime of life—a case of severest Addisonian, so-called "pernicious," Idiopathic Anæmia. His mouth was, indeed, clean to all outside appearance, for it was one mass of gold caps, bridges, crowns, fillings, false teeth, &c., so ingeniously built up that one could hardly tell what was false and what was real. To free that man from his sepsis in his state of health involved what was really equivalent to a major operation in surgery. The conditions of sepsis, necrosis, &c., revealed on removal of this golden architecture were perfectly appalling.

No one has probably had more reason than I have had to admire the sheer ingenuity and mechanical skill constantly displayed by the dental surgeon. And no one has had more reason to appreciate the ghastly tragedies of oral sepsis which his misplaced ingenuity so often carries in its train. Gold fillings, gold caps, gold bridges, gold crowns, fixed dentures, built in, on, and around diseased teeth, form a veritable mausoleum of gold over a mass of sepsis to which there is no parallel in the whole realm of medicine or surgery. The whole constitutes a perfect gold trap of sepsis of which the patient is proud and which no persuasion will induce him to part with. For has it not cost him much money, and has he not been proud to have his black roots elegantly covered with beaten gold, although no ingenuity in the world can incorporate the gold edge of the cap or crown with the underlying surfaces of the root beneath the edges of the gums? There is no rank of society free from the fatal effects on health of this surgical malpractice.

I speak from experience. The worst cases of anæmia, gastritis, colitis of all kinds and degrees, of obscure fever of unknown origin, or purpura, or nervous disturbances of all kinds ranging from mental depression up to actual lesions of the cord, of chronic rheumatic affections, of kidney disease are those which owe their origin to, or are gravely complicated by, the oral sepsis produced in private patients by these gold traps of sepsis. Time and again I have traced the very first onset of the whole trouble of which they complained to a period within a month or two of their insertion. The sepsis hereby produced is particularly severe and hurtful in its effects. For it is dammed up in the bone and in the periosteum, and cannot be got rid of by any antiseptic measures which the patient or the doctor can carry out. Moreover, it is painless, and its septic effects therefore go on steadily accumulating in intensity without drawing attention to their seat of origin.

Such are the fruits of this baneful so-called "conservative dentistry." The title would be a fitting one if the teeth were a series of ivory pegs planted in stone sockets. But the teeth being what they are—namely, highly developed pieces of bone tissue, possessing, I would point out, a richer blood- and nerve-supply than any piece of tissue of the same size in the whole body—and planted in sockets of bone with the closest vascular relations to the bone and the soft tissues of the periosteum and the gums, the title that would best describe the dentistry here referred to would be that of "septic dentistry." Conservative it is, but only in one sense. It conserves the sepsis which it produces by the gold work it places over and around the teeth, by the satisfaction which it gives the patient, by the pride which the dentist responsible for it feels in his "high-class American" work, and by his inability or unwillingness to recognise the septic effects which it produces.

After ten years' experience of the nature of these effects and of the difficulties encountered in removing them, I feel that the only solution of the difficulty may best be described in the terms employed by Huxley, modified to suit this particular case:—

> There can be no doubt that the future of Oral pathology and treatment, and therefore of practical dentistry, depends upon the extent to which those who occupy themselves with these subjects are trained in the principles and impregnated with the fundamental truths of Oral Sepsis and Oral Antisepsis.

The problem is an important one for the dental profession, and its solution is an important one in the interests of public health, especially of our school children, 30 to 50 per cent. of whom suffer from dental and oral sepsis and its tonsillitic, pharyngeal, glandular, and other effects. For while a large body of that profession are engaged in dealing successfully with the difficult problems of dental disease and of oral sepsis, another body is no less steadily engaged in promoting sepsis of the worst character and degree by ignoring the fundamental truths connected with the anatomy, physiology, and pathology of the tissues with which they deal. To gold-cap a healthy or diseased tooth in order to beautify or "preserve" (!) it is the negation of every one of these truths—a veritable apotheosis of septic surgery, and of surgical and medical malpractice.

The medical ill-effects of this septic surgery are to be seen every day in those who are the victims of this gilded dentistry—in their dirty-grey, sallow, pale, wax-like complexions, and in the chronic dyspepsias, intestinal disorders, ill-health, anæmias, and nervous ("neurotic") complaints from which they suffer. In no class of patients and in no country are these, in my observation, more common than among Americans and in America, the original home of this class of work.

CLINICAL EFFECTS OF SEPSIS.

The chief feature of this particular oral sepsis is that the whole of it is swallowed or absorbed into the lymphatics and blood. Unlike the sepsis of open wounds on the outside of the body none of it is got rid of by free discharge on the surface. The effects of it, therefore, fall in the first place upon the whole of the alimentary tract from the tonsils downwards. These effects include every degree and variety of tonsillitis and pharyngitis; of gastric trouble from functional dyspepsia up to gastritis and gastric ulcer; and every degree and variety of enteritis and colitis, and troubles in adjacent parts—e.g., appendicitis. The effects fall in the second place upon the glands (adenitis); on the blood (septic anæmia, purpura, fever, septicæmia); on the joints (arthritis); on the kidneys (nephritis); and on the nervous system.

I cannot within the time at my disposal bring before you all the facts relating to medical sepsis or to its greatest cause—oral sepsis—on which these conclusions as to their importance are based. This I have already done in the series of papers already referred to. I propose rather to deal with you as you dealt with your assumed inquirer in the matter of antiseptic surgery—namely, enunciate briefly certain definite principles that may appeal to you, and illustrate these by a few recent cases selected at random.

The first of these principles is that the sepsis here had in view is all swallowed or absorbed, and that infection with staphylococcal and streptococcal organisms carries with it certain definite and deleterious effects wherever it is found. These effects vary, naturally, with the site of the infection and the degree of resistance offered by the tissues which are the seat of the invasion.

In the case of the mouth the mere presence of staphylococci and streptococci on the surface of the mucosa, or on the tongue, or in the mouth secretions, or in the saprophytic flora which abounds in the mouth, does not of itself cause disease, any more than their presence on the uninjured skin. But the matter is totally different when they become seated in open wounds in the edges of the gums adjacent to carious teeth; or extend from this, their first site, downwards along the periosteum (periodontal membrane) of the tooth socket. The infection is then no longer a superficial one—it is in connexion with the soft tissues, periosteum, and bone. The resistance of these tissues, especially the gums, is fortunately very great; hence a degree of infection which anywhere else in the body would certainly draw attention to itself by its redness, swelling, heat, and pain, may indeed cause redness and swelling, but does not necessarily cause any pain. This is the more to be regretted, for a feature of the septic infection in the gums, the teeth, or in the sockets of the teeth is that it is infection in contact with diseased bone, and its virulence is intensely aggravated by this fact. For no septic infection is more intensely virulent than that connected with diseased bone. I speak from personal experience on this point. The only two occasions in which I ran a very close risk—in one instance of my life, in the other of a limb or my life—were two in which in my post-mortem work I contracted a blood poisoning from pus arising in connexion with diseased bone. One of these was of a case of "septic anæmia," in which I pricked my finger while handling the tongue from a mouth full of oral sepsis. The symptoms showed themselves in 12 hours and were ushered in by faintness and rigors, fever of 103°–104°, and cellulitis of the whole arm before any local disturbance had shown itself.

Such untoward effects in the case of infection of the gums or jaws are very rare, although I have seen complete gangrenous necrosis of the whole of the alveolus and the bone of the hard palate, pyæmia and death result from this infection. But although such fulminating effects are exceptional, septic effects of various kinds and degrees are invariably present. These effects are not proportionate to the mere amount of the existing sepsis, but depend on its virulence. The most intense anæmia, blood poisoning, hectic fever, and even ulcerative endocarditis may in my experience be produced by one septic amalgam stopping, or by a small deep-seated alveolar abscess, or an unrecognised suppuration of the antrum or nasal sinuses. On the other hand, a man may have the foulest sepsis for years without apparently any ill-effect. But he need not vaunt himself unduly upon this comparative immunity; sooner or later his sepsis will find him out (Case 10). For even if it does not itself produce definite disease of its own, it will certainly complicate any independent disease from which he may afterwards suffer; and its effects, although unrecognised, may really constitute some of the most prominent features of his disease (Cases 7, 8, 9, and 10).

A patient's illness is not necessarily made up of the effects of his chief disease. The degree of ill-health or of the gastric, intestinal, febrile, anæmic, and nervous disturbances from which he suffers are by no means necessarily connected with, and due to, his chief disease. The chief interest of clinical medicine, as distinguished from systematic medicine, lies in the recognition of this great fact—in, so to speak, dissecting out all the causal factors operating in any individual case, and in removing so far as possible every

adventitious factor, even if the chief one—e.g., permanent organic disease—is beyond control.

CASES.

CASE 1. *Septic gastritis.*—A patient, a man aged 32, was admitted suffering from chronic indigestion and gastric trouble. His habits had been regular; his bodily physique good. There was no apparent reason why he of all men should be subject to gastric trouble. On examination I found he had a tooth plate in his upper jaw which he had not removed for two and a half years, which he was told not to remove, and which, even now, he could only remove with difficulty and after persuasion. On its removal there was found the most intense septic inflammation and ulceration of the gums around a number of necrosed roots underneath the plate. This was immediately dressed by me. After careful antiseptic dressing for several days to get rid of some of the septic infection, with immediate and obvious benefit to the patient, he ultimately consented to have the roots removed, and the patient left the hospital in a week or two entirely free from all gastric trouble. The condition was "septic gastritis" produced by an intense "oral sepsis," due to the insensate action of a dentist in supplying and fixing a plate to be worn over necrosed roots.

Nine-tenths of the cases of dyspepsia and gastric trouble which I see are caused or complicated by similar oral sepsis, and respond at once to removal of this sepsis. Nevertheless the sepsis is overlooked because not looked for.

CASE 2. *Septic gastritis.*—I was shown recently a very severe and obscure case of gastritis in a woman aged 33. She presented a dirty grey complexion and a broken-down appearance. The fullest report of her case was read to me, including the results of a chemical and microscopical examination of her stomach contents and of her fæces. On examination she presented the most intense oral sepsis—ulceration of the gums, with large deposits of tartar covering the ulcers and extending up to, and enclosing, the teeth, many of these being quite loose in their sockets. She had swallowed this infection for years, and it had caused not only "septic" gastritis, but also septic colitis, for, as was duly noted, pus was present in the fæces.

Everything in connexion with the case had been duly observed and recorded, including the presence of pus in the fæces. But the condition of the mouth, although noted to be bad, had not been dealt with.

CASE 3. "*Septic colitis.*"—A patient was admitted suffering from chronic colitis of many years' standing; he had been an in-patient of other hospitals for the same complaint. He passed large masses of mucus with each motion. The case was so-called "mucous colitis," a title which seems to mean something definite, but merely means that he has some kind of colitis, and that he is passing mucus. On examination I found he had some 20 rotten roots in his mouth, all of them necrosed down to the level of the gum. The infection had all been swallowed for many years. I termed the condition "septic colitis." The teeth were carefully dressed for several days and then extracted. Three or four days later the patient ceased to pass any more clumps of mucus in his stools, the bowels became regular, and in two or three weeks' time he went out free from all intestinal trouble. The condition was one of septic colitis caused by oral sepsis.

Even if the colitis had been originally due to some other cause—e.g., dysentery, typhoid—it would have been intensely aggravated and complicated by this additional septic infection. I have seen many similar cases, and the connexion between oral sepsis and colitis is by no means sufficiently recognised.

CASE 4. *Septic anæmia.*—A patient had suffered from anæmia for six or seven years. Five or six years ago the anæmia was so marked that she was warned by a distinguished surgeon who saw her that it might become "pernicious." When seen by me (1907) she was leading an invalid's life, suffering from chronic anæmia, weakness, giddiness, and palpitation, going about from place to place in search of health. Her history was the following. For the last twelve years she had had pains, very acute, of a neuralgic character over the right frontal region, and this was followed by a discharge of pus from the nose, followed by a similar attack the following winter. From time to time there was tenderness over the right frontal region with increase of discharge. She was sent to me by a well-known nose specialist with the following note: "She has a chronic, foul empyema of the right frontal sinus, and there is muco-pus in the corresponding antrum. Whether these conditions cause the anæmia I do not know; they do not help it getting better. My suggestion is that she should let you relieve her anæmia as far as possible, and when she is well enough she might have the sinus dealt with." My own opinion was quite definite. The whole history and the degree of blood-change—viz., 50 per cent. of hæmoglobin—satisfied me that the anæmia was "septic anæmia," and that it owed its origin to the suppuration of the frontal sinus. I therefore recommended that this latter should be dealt with at once. This was done, and the patient left the home in a few weeks' time entirely cured of her ill-health and anæmia, from which she had suffered for six or seven years.

CASE 5. *Septic anæmia.*—A patient, aged 64, sent to me on Sept. 8th for severe anæmia, from which he had suffered since February. Red corpuscles 41 per cent., hæmoglobin 40 per cent., leucocytes 5000. No history of loss of blood. I suspected septic anæmia and looked for possible causes. I found he had only five teeth markedly septic (oral sepsis 3°), with two small necrosed roots buried in the gum of the right upper alveolus, the gum margin and alveolus being much thickened. The right cheek was somewhat swollen and puffy, with some pain in the left side and tenderness of the last molar. On inquiry I learnt that at the beginning of the illness he had an aching tooth and went to a dentist who supplied him with a set of plates ill-fitting and uncomfortable, which had to be rejected; then supplied another set which also had to be rejected. (The dentist, it will be seen, failed to recognise the actual septic trouble presented by the remaining teeth.) The patient was placed in a home on Sept. 14th. On trans-illumination no antrum disease was discovered. I had the five teeth extracted with difficulty, owing to chronic osteitis. On Sept. 20th the corpuscles and hæmoglobin had risen to 49 and 58 per cent. respectively; and the patient left the home on Sept. 25th looking well, with 75 per cent. of corpuscles and 75 per cent. of hæmoglobin. By Oct. 18th he had 84 per cent. of hæmoglobin, and on Nov. 17th he had 91 per cent. of corpuscles and 94 per cent. of hæmoglobin, and was looking in good health.

CASE 6. *Septic anæmia.*—A man was admitted into a surgical ward on account of gastric symptoms with some hæmatemesis, suggestive of cancer. On examination nothing surgical was found justifying operation. But his anæmia was most profound, and he was transferred to my medical ward. On examination I considered the degree of anæmia to be too great to be accounted for by any loss of blood which he had, and there was marked fever. I therefore examined him for other causes. The gums were very pale and clean, and the teeth good with the exception of one upper bicuspid. Even on inspection I drew the attention of my class to its importance as a possible seat of hidden sepsis. On examining it a teaspoonful of pus burst from it. On further examination by transillumination the antrum above showed a deep shadow. The necrosed root was extracted and the antrum opened up and found full of the most offensively smelling pus. Between the time when he was first examined by me and the operation the pus discharged from the socket of the necrosed tooth was about two or three teaspoonfuls daily. He had swallowed and absorbed this daily—probably for many months—possibly years, with resulting gastritis and anæmia; and he was transferred from the surgical to the medical ward because his condition was essentially a medical one—not a surgical one (!). The condition was one of oral medical sepsis, unlooked for, unrecognised—due to the sepis produced by one septic root, which had probably "never given him any trouble."

CASE 7. *Septic anæmia as a complication of phthisis.*—A man suffering from advanced phthisis looked so exceptionally pale and anæmic that had he had no phthisical signs in the lung he might well have been considered a case of anæmia. His pallor and anæmia, however, were not connected with his phthisis, but with the extremist degree of oral sepsis which he also presented. His health greatly improved when the condition had been dealt with. His anæmia was largely the anæmia which I have termed "septic anæmia."

CASE 8. *Septic anæmia as a complication of chronic nephritis.*—A patient suffering from chronic nephritis may, and often does, present an extremely anæmic appearance, and in many cases a very severe degree of anæmia may be present in the blood. But that also is not necessarily a result of his nephritis, but may be, and often is, due to co-existing oral sepsis, sometimes of an extreme degree. So far from his anæmia being the result of his nephritis, the nephritis may be, and, in my experience and judgment, often is, largely a concurrent effect of the sepsis causing his anæmia.

CASE 9. *Septic anæmia complicating gastric ulcer and chlorosis.*—A girl is admitted suffering from the symptoms of gastric ulcer, and she may, and often does, present an extremely anæmic appearance. In her case the anæmia is promptly designated chlorosis, but it is not necessarily wholly of that character. For she may, and frequently does, present an extreme degree of oral sepsis. This sepsis is, in my observation, largely the cause not only of her anæmia but also of the gastric ulcer. Her trouble is by no means only gastric ulcer; both the gastric ulceration and her anæmia have originally been caused by the overlooked sepsis of her mouth. They are really septic in their nature, and if the temperature of cases of gastric ulcer be watched it will be found that a certain amount of fever is very often present. And a still more interesting practical result may be noted—viz., that on removal of the oral sepsis the whole conditions of gastric trouble, anæmia, and fever clear up together.

CASE 10. *As a complication of nephritis.*—A patient suffered from chronic Bright's disease, and presented all the usual symptoms and features of that condition—urinary changes, vascular changes, eye changes, œdema, headache, drowsiness, &c., including also a varying degree of fever. The temperature suddenly rose, and erysipelatous cellulitis of one side of the face appeared. The condition thus appeared clinically as one of chronic Bright's disease, complicated by erysipelas. On examination a deep ulcer with much stomatitis was found on the buccal mucous membrane of the affected cheek. The condition then appeared clinically to be kidney disease complicated by erysipelas and ulcerative stomatitis. On further examination the ulcer of the mouth was found to be directly in contact with an intensely septic molar root, and many other teeth showed marked septic gingivitis, with tartar deposit and pockets (septic periodontitis). These latter septic lesions had obviously been there for years. The ulcerative stomatitis and the erysipelas were not sequelæ of chronic kidney disease, but the direct manifestations of an entirely different disease—viz., septic infection which had probably existed for many years. The irregular fever presented by the case was also septic. We had thus two intercurrent conditions—kidney disease and sepsis. The latter is euphemistically termed a "terminal" infection—meaning thereby that it has come on towards the end of the patient's chief disease. But this infection was not "terminal"—was not determined by the kidney disease. It has existed for many years prior possibly to the nephritis, and the continuous excretion during these years of its toxins was quite capable of producing a chronic tubular nephritis; or, failing that, was certainly aggravating any nephritis due to other causes.

As a Complication of Specific Fevers.

The following cases show to what extent oral sepsis complicates specific fevers, such as scarlet fever, typhoid, diphtheria, and the striking benefits to be got from its removal.

In 648 cases of scarlet fever admitted into the London Fever Hospital under my care in the four years 1904–07, the incidence of oral sepsis, carefully noted by myself, varied from 25 per cent. to 43 per cent. The effect of oral antisepsis—the removal, as far as possible, immediately on admission of every trace of oral sepsis around the patients' teeth and gums by daily swabbings with 1–40 carbolic acid solution—throughout the earlier part of the disease was very striking. The chief complications of the disease were reduced as follows: The incidence of secondary adenitis was reduced from 9·6 per cent. in 1904 to 3·3 per cent. in

1906, and 1·8 in 1907; of cellulitis of the neck from 5·2 per cent. in 1904 to 2·8 in 1906, and *nil* in 1907; of glandular suppuration from 1·7 per cent. in 1904 to 0·5 in 1906, and *nil* in 1907. The striking improvement was due to the increasing care taken by myself and by my residents and nurses under my instructions. In only one or two cases out of the whole series were any teeth extracted.

PRINCIPLES OF TREATMENT.

What are the general principles of the treatment applicable to medical sepsis? The first and most important is curiosity about and careful observation of the actual character and degree of the septic foci present in the mouth (naso-pharynx or elsewhere) in every case of medical disease. This observation cannot be made by a cursory glance into the mouth and a general conclusion to the effect that the "teeth are fairly good," or the mouth "fairly clean," or that the mouth "requires to be seen to." *If you look* closely into the mouth of your patients and note what you see *you will observe* every degree and variety of septic gingivitis; every degree and variety of septic ulceration; every degree of tartar deposit as a great effect of this septic inflammation and ulceration; every degree of suppurative inflammation of the gums; every degree and effect of septic periostitis and periodontitis with formation of pockets and loosening of teeth; every degree and effect of septic osteitis—e.g., rarefying osteitis, causing recession of the bone socket, or formative osteitis, causing thickening of alveolus; every degree and variety of septic caries and necrosis of the teeth; and as a result of all these conditions, singly or combined, every degree and variety of septic stomatitis, simple, ulcerative, gangrenous. You will see all this in infinitely less time than it takes to examine a specimen of the gastric contents, or of the fæces, or of the urine, or of the sputum; in far less time and with far less labour than it will take you to examine the nose, or the nasopharynx, or the larynx; in far less time than it takes you to examine the heart, or the liver, or, indeed, any other organ of the body. In particular cases you will observe that all these septic conditions are produced, or intensely aggravated, by toothplates covering necrosed roots, by amalgam and gold fillings which have become septic, by porcelain crowns with gold collars, by gold caps over diseased teeth, gold bridges and other gold fixed dentures which, however good to begin with, are never really aseptic, and are liable to become extremely septic. All these you can observe in a few minutes if you look for them—in less time almost than it takes to mention them.

The prime indication in treatment is thus to recognise the septic infective nature of these mouth lesions and their true relations to each other—to recognise which are the causes and which are the effects.

As I have shown, the course of the septic infection is from the gums to the periodonteum (periosteum) of the root, and thence to the bone of the socket. The results are septic gingivitis with ulceration, septic periodontitis (periostitis) with ulceration (pocket formation), rarefying osteitis of the tooth itself or of the socket with loosening of the tooth. *As a result* and accompaniment of the whole of these processes, we have the formation and deposition of tartar in larger or smaller amounts on the edges of the gums, in the pockets, or on the tooth itself. The prime causal factor in all these processes is the septic infection; all the other processes—gingivitis, periodontitis and periostitis, osteitis, and tartar deposits—are the results of this septic inflammation and ulceration.

I am accustomed to ascertain the degree of oral sepsis present in every case by close examination of the condition of the gum and bone around each tooth; and to indicate the degree of sepsis—whether slight, moderate, or severe—by the figures 1°, 2°, 3° respectively. In many cases these figures do not suffice; for the degree of sepsis is so great that it can only be expressed by figures up to 7° or 10°. The patient may have all his teeth good, excepting one or two; and yet these may present such a degree of septic gingivitis, or ulceration, tartar deposit, or necrosis, or there may be so much tartar deposit in connexion with one or more of all of his teeth, that the degree of sepsis is really severe—3°, 5°, or 7°. Or he may present a veritable mausoleum of gold work in his mouth in, on, and around his teeth, and be regarded as having his mouth "well cared for" and "thoroughly set in order," when, as a matter of fact, the degree of sepsis and necrosis covered and hidden by the gold is perfectly appalling (10°). I speak from experience. I have had many such cases, and they are the most trying and pitiable cases with which one has to deal, for they are produced by dentists. The worst cases of septic gastritis, enteritis, and colitis, of ill-health, anæmia, obscure septic fever, and other manifestations of medical sepsis, are in my experience those in which the greatest so-called "care," the greatest amount of "American skill" in the shape of gold work, has been bestowed on the mouth. For the patient refuses to have it touched. He has paid much for it and he has been told by his dentist that it represents the highest dental skill. As one of them put it to me, "For the life of him he could not see what connexion it had with his condition"!—in his case, one of continuous ill-health, gastric and intestinal trouble, and finally of anæmia, from which he had suffered for 20 years. His death shortly afterwards "saw" the connexion.

In observing the degree of sepsis in my hospital cases I am in the habit of dressing the septic wounds. The method I employ is to swab the edges of the gums and teeth with cotton-wool and 1 in 60 carbolic in order to clean off pus and to enable me to see the character and extent of the underlying wounds. The wounds are thereby dressed at the same time that they are being examined, and all the superficial sepsis is got rid of. This antiseptic dressing of the gums should be carried out daily so long as open wounds are present, by the nurse or by the patient himself; and it is astonishing how quickly the septic conditions of the gums are improved thereby, and how quickly the patient feels and shows by his appearance the benefit of this antisepsis.

Both the observation of the lesions and the treatment here described can be carried out in almost as short a time as they can be described. Pus is removed, pieces—sometimes masses—of soft tartar can be tilted off the edges of the gums, the foul bleeding wounds lying underneath them are exposed and simultaneously dressed. This treatment is applied irrespective of the presence or absence of deeper-seated sepsis—such as that connected with carious or necrosed teeth. For even if such are present, as they so often are, the removal of the superficial sepsis is a great boon to the patient, since if left it would be swallowed. Moreover, if the teeth have to be removed, the preliminary dressing frees the wounds around the necrosed teeth from much of their sepsis, and thus prevents the risks of further infection of the fresh wounds created by the removal of the tooth.

A further, and by no means the least important, advantage of the simple antiseptic measures here described is this: the patient himself learns for the first time that care of the teeth does not necessarily mean extraction of teeth; that, short of extraction, much can be done without any discomfort or pain to himself; moreover, that he himself can in many cases carry out the necessary antiseptic measures. Weak, nervous, highly strung patients, who at first absolutely refuse to allow anything to be done to their mouth, will, after a short experience of antiseptic dressing, of its freedom from pain, and of the benefits they experience from it, consent without demur to the removal of their carious roots. In one such case under my care, admitted very ill with a long-continued fever of unknown nature, the patient ultimately consented to have 10 or 12 necrosed roots removed, and went out quite well—a marvel to herself and to the doctor who sent her in thinking she had some obscure malignant or tuberculous disease. The temperature, which had ranged between 101° and 103° for many weeks, fell to normal on the day after the removal of the septic roots.

These are very simple principles of treatment for a condition that carries with it so many ill-effects—so it may be said. Yes, the principles are simple—they are *only* (!) those of observation and recognition and removal of the sepsis responsible for these effects. They are of the same simple character as those underlying the washings and scrubbings of his own hands and the skin of the patient which the surgeon carries out with such patience and ritualistic care. They have the same object—namely, the removal or prevention of any sepsis that can possibly introduce septic infection into the body. Like these measures, they are most effective when carried out by the doctor himself, not left to others. They differ from the antiseptic measures of the surgeon in one respect—they are not carried out amid the same impressive antiseptic surroundings. They therefore lack the impressiveness of the surgeon's antiseptic precautions both for the patient and the medical onlooker. But this is a fault that can, and will, I hope, in the near future

be remedied. For the evil of sepsis in the mouth is a very prevalent one and can never be adequately dealt with by driving every sufferer from it through the already overtaxed and overburdened hospitals of the dental profession. Even after it is dealt with antiseptically in the manner above described by the doctors and surgeons whose cases it complicates, there will always remain sufficient for the dental surgeon to undertake in his own sphere.

The surroundings which I would fain see provided in both general and dental hospitals and children's schools for carrying out these initial and all-important antiseptic dressings of the mouth would be special dressing-rooms free from all costly appliances of dental chairs and dental apparatus, and furnished simply with the simpler antiseptic furniture of a surgical dressing-room. If patients could learn that they could have their gums and teeth antiseptically dressed by a competent nurse without any pain or discomfort to themselves, the evil of oral sepsis could be greatly prevented or kept in check. For they would learn from this experience what they cannot learn now—namely, the antiseptic objects and the benefits of cleanliness of the mouth. As one hospital patient put it, "No one had ever told me before."

These principles of treatment are indeed simple; they are only those underlying the whole practice of antiseptic surgery—namely, removal of sepsis whenever it is causing ill-effects and can be got at. If they can be put into practice in the domain of medicine to prevent or get rid of some of the most prevalent diseases in medicine, as in my experience they can be, it is the duty of the medical profession as a whole and each member of it within his degree to help to carry them into practice and to devise the necessary measures in their hospitals to enable them to be carried out.

The evil is so common and widespread that it is impossible to deal adequately with it—so it may be said. The same plea might have been urged in connexion with every other great practical advance in preventive medicine—e.g., the sanitary measures for the prevention of typhoid and other water-borne diseases. To deal effectively with such diseases—to teach people how to be clean in their sanitary arrangements—must have appeared an almost hopeless task when sanitary science was first put into practice. But everything can be done in time—if the principles underlying our efforts are sound.

So with this great evil of oral sepsis and its manifold ill-effects, far more widespread in their extent and no less severe in their character than those connected with typhoid or even with tuberculosis. The plea of helplessness to deal with it, I submit now as I did in my first papers on the subject, is a singularly poor one to be put forward or given any support to by the medical or surgical profession, at whose instigation the most elaborate and expensive equipments of hospitals have been, and are daily being, carried out.

SUBTOTAL HYSTERECTOMY FOR FIBROMYOMA UTERI: FORTY ADDITIONAL HISTORIES.[1]

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IN September, 1905, I read at a meeting of the Obstetrical Society of London a communication bearing the title "Subtotal Hysterectomy: After Histories of Sixty Cases."[2] I had already discovered that long series of "successful cases" of hysterectomy for fibroid tumours, when "success" simply means recovery from operation, teach little or are actually misleading, for "recovery" is by no means synonymous with cure. The tumour is gone, but certain discomforts may for a while embarrass the patient, and the surgeon should be aware of the nature of these possible discomforts. On that account I prepared tables of 60 cases in my own practice where the patient had not reached the menopause and where an after-history of at least two years was obtainable, tables drawn up after Dr. G. Crewdson Thomas's method. When one or both ovaries are saved a two years' history is absolutely needed, for as I then noted and as the present record of further experience will show, a kind of period may be observed for many months after a subtotal hysterectomy where both ovaries have been removed. Therefore I then rejected, as I now reject, many interesting cases where the after-histories were too short or otherwise imperfect. The main object of my memoir was to determine how far patients receive lasting benefit from subtotal hysterectomy, how far they are liable to certain discomforts, how far the preservation of more or less ovarian tissue may save them from these discomforts, and lastly, how far it may be necessary to preserve some of the endometrium, or, in surgical language, how far it is advisable to amputate the fibroid uterus above the level of the os internum.

In this communication I analyse 40 similar cases from my own operative practice as before. The operations in the new series were performed between February, 1903, and February, 1908. Thus I have collected 100 cases, which simplifies, among other things, the calculation of percentages, whilst the value of the two series is in other respects greatly enhanced by their combination. I earnestly hope that operators who prefer panhysterectomy in the treatment of uterine fibroid will see their way to publish similar analyses of their operative practice. I do not deny that the complete operation has its advantages. I will not discuss either the immediate or distant benefits or risks associated with the preservation of the cervix, for the aim of this communication is not the consideration of the purely surgical merits of a certain operation, but the making known of its remote effects on the patient. I exclude all other considerations, many of high importance, such as the value of the cervix as a support to the pelvic floor.[3] On the other hand, I must be excused for avoiding all purely physiological questions, and therefore I will not discuss the important monographs of Scott Carmichael and Marshall,[4] Blair Bell and Hick,[5] Bond,[6] and the British and foreign workers who have recently experimented on transplantation.[7] We must study with care the reports issued by these distinguished authorities; and for my own part I follow their example when I publish the result of my own experience. With all respect to them I must turn attention to the truth that women are not rabbits. When we remember how many fallacies have arisen through theorizing on the homologies of bones, how can we rely on theories about the homologies of the ovary and endometrium in woman and in the lower mammals? We must not take for granted any assumption that lutein is the same in *Lepus* as in *Homo* and that the endometrium immediately above the cervix bears the same relation to the ovary in the rabbit as in our own species. At the same time, we know that the able, painstaking, and experienced workers to whom I have just referred will do their best to throw more light on these dark questions.

Dr. Arthur E. Giles, in an important statistical treatise on his operative work,[8] finds that "after hysterectomy menstruation usually ceases; but if a small portion of the body of the uterus be left, as may happen in a high supravaginal amputation, menstruation may continue regularly for a longer or shorter period, with no other apparent difference than a diminution in quantity." His experience agrees with my own, but his tables are not drawn up quite after the plan which Crewdson Thomas and myself have adopted, as many after-histories are too short for the present purpose, and cases of panhysterectomy and amputations for fibrosis as well as fibro-myomatous tumour are included. Still, although a precise scrutiny of the level of amputation would have been desirable, we must admit that Dr. Giles

[1] A paper read at a meeting of the Royal Society of Medicine, Obstetrical and Gynæcological Section, on Jan. 5th, 1911.
[2] THE LANCET, Nov. 4th, 1905, p. 1310.

[3] In none of my hundred cases did prolapse of the vagina develop. Giles finds that "the fate of the cervical stump after supravaginal hysterectomy need cause no apprehension."
[4] "The Correlation of the Ovarian and Uterine Functions," Proceedings of the Royal Society, B, vol. lxxix. "On the Occurrence of Compensatory Hypertrophy of the Ovary," Journal of Physiology, vol. xxxvi. (1908), p. 431, and (S. Carmichael), "Conservative Surgery of the Uterus and Ovaries," Edinburgh Medical Journal, March, 1909.
[5] "Physiology of the Female Genital Organs," Brit. Med. Jour., vol. i., 1909, p. 517, et seq.
[6] "Uterine and Ovarian Physiology and Pathology in Rabbits," Ibid., vol. i., 1906, p. 121.
[7] S. Carmichael: "The Possibilities of Ovarian Grafting in the Human Subject," Journal of Obstetrics and Gynæcology of the British Empire, vol. xi., p. 215.
[8] "A Study of the After-results of Abdominal Operations on the Pelvic Organs, based on a Series of 1000 Consecutive Cases," Journal of Obstetrics and Gynæcology of the British Empire, vol. xvii., p. 370.

has taken great pains in his analyses of menopause symptoms after subtotal hysterectomy. Mrs. Scharlieb has published two instructive series of tables of operations for fibromyomata of the uterus,[9] but not quite on the same plan as my own. We hope to hear more about after-histories from so competent an authority.

Lastly, in respect to statistical tables designed to throw more light on the questions under consideration, the section would, I am sure, be much interested if certain strong advocates of panhysterectomy,[10] well known and honoured by us all, would furnish us with analytical tables such as I have prepared.

In regard to the recently expressed opinions of others in respect to the saving of ovarian tissue and the preservation of a piece of endometrium by amputation above the os internum, I find that some writers are in accord with views expressed in this communication. Kelly and Cullen[11] declare, on statistical evidence which they publish, that the surgeon should, wherever possible, save every normal ovary. In their series of 56 cases where one or both ovaries were saved the after-histories are shorter than two years in at least the last two cases, a fact which might draw down criticism from those who make light of conservative methods. In order to exclude absolutely any abnormally early appearance of the menopause these writers only include in their table cases in which the patients were not over 41 years of age. I have included in my series all patients who still menstruated, as the sudden arrest of the catamenial function is to be avoided if possible at any age, and if a relatively aged woman in whom that function persists is subjected to operation it is both interesting and important to ascertain the after-history.

Dr. Howard Kelly, however, writing independently, advocates preservation of a piece of endometrium, as well as one or both ovaries.[12] "I have in selected cases proceeded upon the plan of keeping a portion of the uterine body with the mucosa above the cervix in women who were still menstruating, in this way succeeding in preserving regular menstruation in many cases of non-malignant disease, for the most part treated to-day by a cervical amputation of the uterus or even by panhysterectomy. The two classes of patients best fitted for this plan of treatment are, on the one hand, those with fibroid uteri not suitable for myomectomy, nor demanding panhysterectomy, and, on the other, the large group of subinvoluted hæmorrhagic uteri. It is a *sine quâ non* in each case that one or both ovaries must be sound enough to be retained. It is sufficient to retain a little pocket of the mucosa within the uterus big enough to lodge the end of the little finger, while more should be kept if possible; with the mucosa the corresponding portion of the muscular investiture is retained. The tissues so conserved are then sutured face to face as not seriously to interfere with the blood-supply. An amputation of this sort is easily done by simply cutting through the uterine wall well above the cervix, starting, in other words, to make a high amputation in and not below the uterine body."

Thus, like Abel, Zweifel, and myself, Howard Kelly deliberately saves some of the endometrium when possible in order to prevent as far as practicable a sudden cessation of the menopause. He is yet more conservative than other operators, for he "grades the amputations done *in utero* from one which is barely made supracervical to one which is done at the very fundus itself and is principally a myomectomy." He practises a horizontal and a vertical amputation, describing the steps of each operation. He publishes nine results, but no doubt a longer series will some day be issued.

These tables certainly show that there can be no doubt that the preservation of ovarian tissue is advisable, provided that the ovaries are healthy and that their sacrifice is not demanded for certain surgical reasons. The preservation of a piece of endometrium seems almost equally advisable. The saved fragment may, it will be seen, carry on menstrual functions when both the ovaries are sacrificed. The advantages of sparing a piece of the uterine mucosa comes out clearly in Group II., where one ovary was spared. The point is obscured in Group III., where both ovaries were saved, owing to certain non-essential complications present in no less than three cases.

GROUP I.

Both ovaries removed.—Twelve cases come under this heading—namely, Cases 61, 64, 69, 73, 77, 78, 81, 84, 90, 93, 96, and 99.

Age.—Five between 35 and 40 years (Cases 61, 78, 84, 96, and 99); from 40 to 45 years, five (Cases 64, 73, 77, 81, and 90); from 45 to 50 years, one (No. 69); and one 50 years old (Case 93).

Married or single.—Ten married (Cases 61, 64, 69, 73, 78, 84, 90, 93, 96, and 99); and two single (Cases 77 and 81).

Results.—1. Menopause neither immediate nor complete: 1 (Case 64). 2. Menopause complete, no symptoms: 3 (Cases 69, 93, and 96). 3. Menopause complete, distinct but mild symptoms: 4 (Cases 61, 73, 78, and 81). 4. Menopause complete, severe symptoms: 4 (Cases 77, 84, 90, and 99).

Analysis of the case where the menopause was neither immediate nor complete.—No. 64. Age 44. Married. Four pregnancies, last 12 years. Hæmorrhages: Severe menorrhagia. Size of tumour: Small; it involved the cervix. Line of amputation: Above os internum. Ovaries: Normal. No. 64 may be ranked among those interesting cases where, although both ovaries were removed, it is certain that some of the endometrium was saved and where the periods continued for two years, whilst no flushings or other distressing symptoms preceded or followed their cessation. Last August, close upon seven years after the operation, the patient wrote to inform me that she had grown stout and had never felt so well since her youth, a "history," however, quite common after the menopause. This patient had been under treatment for uterine hæmorrhages, beginning after her last confinement 11 years previously. Recently they had been very severe; one attack two months before the operation lasted five weeks and nearly proved fatal. There was double aortic disease distinct but not pronounced, and small external hæmorrhoids. I enucleated a fibromyoma of the size of a Tangerine orange, which mostly grew in the anterior wall of the supravaginal portion of the cervix. The body of the uterus was very bulky, hæmostasis was difficult, and on that account I did not attempt to finish the operation as a pure myomectomy, whilst the appendages had to be sacrificed in order to secure the ovarian vessels far above the engorged veins on the uterus. The artery of each round ligament required separate ligature. Then the uterus became pale and diminished in bulk. I thought that some endometrium might well be saved, bearing in mind some previous cases, so I amputated above the os internum. The anterior wall of the cervix made a good flap, after careful trimming, over a stump which was not at all bulky.

Relation to cases in the old tables.—This case (Case 64) resembles Case 36 in the old tables, where menorrhagia was marked. The periods reappeared three months after the operation, and continued regular for seven months; by the end of two years there was only occasional show. There were no flushings. In Case 64 the periods were regular. In Case 12 the periods, though irregular, persisted for over two years, but there were flushings, which subsided when the periods ceased. In Case 29, not only were both ovaries removed but the line of amputation passed below the os internum. A slight mucous discharge persisted and it was distinctly coloured every four weeks. Possibly, as I suggested when I reported the case, there were endometritic elements in the cervical mucosa. We see clearly, however, that in 10 per cent. in this group and in 4 per cent. of the whole series menstruation continued for some time after the removal of both ovaries, though the influence of the other factor under consideration is not evident. They seem to prove that the endometrium can maintain the catamenial functions when the ovaries have been extirpated.

Analysis of the three cases where the menopause was complete without symptoms.—Age: The youngest (Case 93) was 38 years old; the eldest (Case 93) was 50. Case 69 was 48.

[9] See "An Analysis of a Second Hundred Cases of Operation for Fibro-myomata Uteri, with Special Reference to their Degenerations and Local Complications." Proceedings of the Royal Society of Medicine, vol. ii., Obstetric and Gynæcological Section, p. 45.

[10] See J. D. Malcolm "On the Advisability of Removing the Cervix in Performing Hysterectomy for Fibro-myomatous Uterine Tumours," Transactions of the Obstetrical Society, vol. xlix., 1907, p. 148. An instructive discussion followed the reading of this important communication, and is published in full. Salva Mercadé (La Période post opératoire, soins et accidents, 1910, pp. 450-2) shows that the chances of cancerous degeneration of the stump have been greatly overestimated owing to certain sources of fallacy.

[11] Myoma of the Uterus, 1901, p. 603.

[12] "Amputation of the Uterus in the Corpus to Preserve the Menstrual Function," American Journal of Obstetrics, April, 1909, p. 570.

Married or single: All three married. Hæmorrhages: Only in Case 96, where a submucous growth had developed. Size of tumour: 3½ lb. in Case 69; moderate-sized, mesosalpinx invaded, mesenteric adhesion in Case 93. Small in Case 96. Line of amputation: Above os internum in 1 case (Case 93); below in 2 (Cases 69 and 96). Ovaries: Associated with tubal disease in 1 (Case 69), and normal in 2 (Cases 93 and 96). In Case 93, reported in THE LANCET of Nov. 9th, 1907, p. 1309, I operated on account of symptoms of chronic obstruction due to an adhesion of one lobe of the tumour to the mesentery. This adhesion formed an arch under which coils of small intestine became incarcerated. Although the patient was 50 years of age the periods were still present with more free show than when she was in the prime of life; such is not rarely the case in fibroid disease. For surgical reasons it seemed best to sacrifice the ovaries, but the uterus was amputated a little above the os internum; the stump was not fleshy and was easily covered over by a small flap. The menopause was complete and there were no flushings or any other symptoms. This satisfactory after-history is not always to be reported when both ovaries are removed from a relatively elderly woman who has not reached the menopause.

Relation to cases in the old tables.—Six came under this group (Cases 1, 6, 31, 37, 41, and 47). In 5 the line of amputation passed below the os internum; adding Cases 69 and 96, the total will be 7; in Case 41 this factor was uncertain. Adding Case 93, the total number of cases where the menopause was complete without symptoms, after removal of both ovaries, will be 9; that is, 22·5 per cent. in this group and 9 per cent. in the whole series.

Analysis of the four cases where the menopause was complete with distinct but mild symptoms.—Age: 2 under 40—Case 78 (36) and Case 61 (37); 2 under 45—Case 73 (43) and Case 81 (44). Married or single: 3 married (Cases 61, 73, and 78) and 1 single (Case 81). Hæmorrhages: Severe in 1 case (Case 61); moderate in 2 cases (Cases 78 and 81); and absent in 1 (Case 73). Size of the tumour: 11½ lb. in Case 61; 7 lb. 2 oz. in Case 81; 2½ lb. in Case 73; and 2½ lb.—"cystic perithelioma"—in Case 78. Line of amputation: Above os internum in 3 (Cases 61, 78, and 81) and below in 1 (Case 73). Condition of ovaries removed: Suspicious in appearance in 1 (Case 78); normal but drawn very high up in 2 (Cases 61 and 73). Lastly, in 81 "there was a true corpus luteum hæmatoma appearing as a blood cyst of the left ovary. The opposite (right) ovary has ovarian tissue extending into the ovarian ligament to within a quarter of an inch of the uterine cornu. The ovarian stroma has here produced a corpus luteum of most perfect type containing quite a large amount of compact lutein tissue" (C. Lockyer). Menopause symptoms in these cases: Limited in all four cases to occasional flushings.

The most noteworthy case in this group is Case 61. The patient was relatively young, 37 years of age, and had been married 14 years; she had borne six children, the youngest being three years old. A large bleeding uterine fibroid developed, there were strong omental adhesions, and a hæmatoma appearing as a solid body of the size of a chestnut lay in the omentum immediately above the line of adhesion; it represented an old hæmorrhage, no doubt due to the omentum being knocked backwards against the fibroid. The uterine appendages were very high up, and as the tumour was extremely vascular I found it necessary to tie the ovarian vessels on both sides; the vermiform appendix lay on the capsule on the right side, the broad ligaments were widely opened up, and the base of the tumour was enucleated from their folds. I was able to amputate the uterus immediately above the os internum, leaving a piece of healthy endometrium, whilst the muscular coat was cut thin. It may be noted that although a large vascular tumour, causing severe menorrhagia, was removed, the operation being lengthy on account of adhesions, enlarged vessels and enucleation, and the ovaries being sacrificed, nevertheless the sudden artificial menopause was not associated with severe symptoms in this case where endometrium was designedly saved.

Relation to cases in the old tables.—Nine came under this group—namely, Cases 2, 4, 5, 13, 16, 23, 28, 33, and 38. In all the nine mild flushings were noted, Case 23 had tinnitus, and Case 33 vertigo as well. In 4 cases the line of amputation passed below the os internum. Adding Case 73 in the present series the percentage will be 5. In 5 cases the line passed above the os internum. Adding Cases 61, 78, and 81, the percentage will be 8. The gross percentage of cases in this group where the menopause was complete, with distinct but mild symptoms, is 32·5, or 13 per cent. of the whole series.

Analysis of the four cases where the menopause was complete, with severe symptoms.—Age: Two between 35 and 40 (Cases 84 and 99) and two between 40 and 45 (Cases 77 and 90). Married or single: Three married (Cases 84, 90, and 99) and one single (Case 77). Hæmorrhages: None in three (Cases 84, 90, and 99) and distinct menorrhagia in one (Case 77). Size of tumour: In none was the tumour large; the operation was undertaken on account of pressure symptoms, &c.; in Case 77 there was also a fibroid in the left broad ligament, and in Case 90 the cervix was involved. Line of amputation: Above os internum in two (Cases 77 and 99) and below in two (Cases 84 and 90). Condition of ovaries removed: In the worst case (Case 77) the appendages were unavoidably damaged during the operation; in Case 90 both ovaries were cystic; in Cases 84 and 99 I found it advisable, for surgical reasons, to remove the ovaries. Menopause symptoms in these cases: Case 77 was the worst in the whole series, as the patient became insane, but it is by no means clear that this mental disease was due to the operation. The patient was aged 42 years, and subject to severe pelvic pains for two years, which kept her from her work; when under Dr. Cuthbert Lockyer's observation for five months she suffered from menorrhagia. Proptosis and tachycardia had been noted by a former medical attendant, but although the eyes were very prominent the pulse on admission was 84. There was no thyroid enlargement as in Case 74. The uterus was enlarged by a fibroid in its anterior wall and pushed to the right by a solid oval body as big as a turkey's egg. I removed the uterus and ovaries in June, 1905, enucleating the fibroid in the left broad ligament. The stump was fleshy and I trimmed it freely. This patient was a rheumatic subject. A little show was observed four times after the operation, but it is doubtful if it were menstrual. She returned to her professional duties and enjoyed very good health until November, 1908, over three years after the operation, when her health broke down. She suffered from constant flushings, worse by day; the last show was then observed. Tinnitus and deafness on the right side developed after November, and disease of the middle ear was detected; the flushings continued through 1909, but grew less severe. The patient complained of vertical headache and a "pumping noise." In the winter 1909–10 she improved greatly, but she rather suddenly became insane in the spring of 1910. Summoned home on account of her mother's illness, she arrived too late, finding her parent dead. This caused severe shock, and she then had an attack of influenza. On June 1st, 1910, the medical superintendent of the Berkshire Asylum reported that she was "very lost and rambling, and has periods of excitement." She was afterwards removed to Hanwell. Her sister had been twice under restraint. In the remaining cases (Cases 84, 90, and 99) the symptoms were nothing worse than severe flushings, generally with perspiration.

Relation to cases in the old tables.—Ten cases came under this important group—namely, Cases 3, 10, 14, 25, 26, 30, 35, 42, 44, and 54. In 8 the symptoms were, as in the present group, simply severe flushings, but Cases 25 and 26 were graver cases. The second, Case 26, was already intemperate before the operation; for three years after it the patient was troubled with flushings, which then ceased, and at the same time she resumed her intemperate habits and died from carbolic acid poisoning (suicidal?) at the end of six months. Case 25 resembled Case 77 in one respect, but the patient had already been under restraint before the operation, although I was not informed of the fact until afterwards. About five months after the operation she was troubled with persecutory delusions, which occasionally recurred for a year or two. This patient, 41 years of age, did not suffer from flushings. In 6 cases in the old tables amputation was made below the os internum: adding 84 and 90, the total will be 8. In the remaining 4 there was uncertainty about the level. The gross percentage of cases in this group, where the menopause was complete with severe symptoms, is 35, or 14 per cent. in the whole series. It will be seen that the percentage is much lower in the second and third groups, where the patient was not deprived of all ovarian tissue.

GROUP II.

One ovary saved.—Thirteen cases come under this heading—namely, Cases 62, 63, 66, 72, 74, 76, 79, 80, 88, 89, 95, 98, and 100. Age: One 28 years old (Case 100); three between 35 and 40 (Cases 76, 80, and 98); six between 40 and 45 (Cases 63, 66, 74, 79, 89, and 95); and three between 45 and 50 (Cases 62, 72, and 88). Married or single: Five married (Cases 62, 66, 72, 95, and 98), and eight single (Cases 63, 74, 76, 79, 80, 88, 89, and 100).

Results.—1. Menopause neither immediate nor complete: 8 (Cases 62, 63, 66, 72, 79, 80, 89, and 89). 2. Menopause complete, no symptoms: 4 (Cases 74, 76, 95, and 100). 3. Menopause complete, distinct, but mild: 1 (Case 88).

Analysis of the eight cases where the menopause was neither immediate nor complete.—Age: Two between 35 and 40 (Cases 80 and 98), four between 40 and 45 (Case 63, 66, 79, and 89), and two between 45 and 50 (Cases 62 and 72). Married or single: Four married (Cases 62, 66, 72, and 98) and four single (Cases 63, 79, 80, and 89). Hæmorrhages: Severe and very chronic, Case 62; moderate menorrhagia associated with adenomatous polypus, Case 80; menorrhagia, Cases 63, 72, and 89; none in Cases 66, 79, and 98. Size of tumour: Very large in Case 66 (15 lb., peritheliomatous elements); large in Cases 63, 79, and 98; moderate in Cases 62 and 80; small in Cases 72 and 89. Line of amputation: Above the os internum in six (Cases 66, 72, 79, 80, 89, and 98) and below in two (Cases 62 and 63). Condition of ovary removed: In one case (Case 89) the left ovary was cystic and the cyst contained a hæmatolith, a perfectly flat triangular body, with a base three-quarters of an inch long. There had been much menorrhagia in this case, but neither pain nor ovarian tenderness. In the 7 remaining cases (Cases 62, 63, 66, 72, 79, 80, and 98) one ovary was sacrificed either to facilitate hæmostasis or because the corresponding broad ligament was opened up and damaged. Menopause symptoms in these cases: In Case 63, where the line of amputation was below the os internum, there were distinct flushings for several years. It is not quite certain that this case should come under this group, but I include it with the remaining seven because the patient declared that the show seen six months and also two years and two months after the operation was in both instances associated with molimen, and the flushings were in a certain measure periodical. In Case 62, where the line of amputation was also below the os internum, distinct show was seen three or four times after the operation, and for as long as six years at least there were occasional flushings with vertigo. The patient at the date of operation was still menstruating regularly, although 49 years old. In all the remaining 6 cases some endometrium was left behind. In Cases 66, 80, and 89 the period continued regular for several years. In Case 66, where the operation described elsewhere was very severe, the period continued for three years and then ceased; I saw the patient two years after the menopause, there had been no neuroses of any kind. In Case 80 the periods were quite regular, although scanty, four years after the operation; there had been no flushings. In Case 89 the condition was precisely similar three years after the operation. In Cases 72 and 98 the periods continued for a few months and there were flushings rather severe, and in Case 98 associated with headache. In Case 79 the periods remained quite regular for one year, and then the menopause came on slowly without any disagreeable symptoms.

Relation to cases in the old tables.—As in the new tables, eight cases came under this group, Cases 19, 34, 39, 43, 51, 52, 57, and 60. In all there was persistence of menstruation for a distinct period as in Cases 66, 80, and 89. Case 51 was remarkable, as the periods were regular for 16 months, then the show never reappeared, but a regular periodical molimen continued for at least a year and a half. In seven cases in the old tables the line of amputation was above the os internum, making with the six in the new tables a total of 13 per cent. In the remaining case there was some uncertainty about the level of amputation. The gross percentage of cases under this group is 16. However, another group collected from the old tables has been suppressed as not strictly necessary: I mean instances where the catamenia appeared after operation but were irregular, 5 in all.[13] Such cases are here included under "menopause neither immediate nor complete." In all 5 the line of amputation was above the os internum, making a total of 18 per cent. The gross percentage of cases where one ovary was saved and the menopause was neither immediate nor complete, the periods continuing either regular or irregular, amounts to 53·8 in this group, and 21 in the entire series. I may add that in one of the 5[14] added to the group as at present arranged, the same phenomenon was noted, such as I observed in Case 51. The periods were regular for some time after operation,[15] then the show of blood ceased, but for at least two years after its cessation the menstrual molimen recurred with perfect regularity. In Case 81, belonging to Group III., there was a similar but shorter persistence of molimen.

Analysis of the four cases where the menopause was complete without symptoms.—Age: One between 25 and 30 (Case 100), one between 35 and 40 (Case 76), and two between 40 and 45 (Cases 74 and 95—both 41). Married or single: One married (Case 95), and three single (Cases 74, 76, and 100). Hæmorrhages: Severe in one case (Case 76), and slight (distinct menorrhagia) in three cases (Cases 74, 95, and 100). Size of tumour: Very bulky, not weighed in one case (Case 76), 6 lb. in Case 74, 3 lb. 2 oz. in Case 95, and 1 lb. 2 oz. in Case 100. Line of amputation: Above the os internum in all four cases. Menopause symptoms: Flushings and headaches did not trouble any of the four cases. In Case 76 there was, four years after the operation, occasional tympanitic distension of the abdomen, probably due to dyspepsia. Case 74 deserves some notice. The patient was a single woman aged 41 years. She had been in weak health all her life, and latterly very subject to tonsillitis, for which she placed herself under the care of Dr. A. C. Tucker of Barnsbury. She admitted to him that she had frequent attacks of tremors with profuse perspiration ever since she was 20, after he had noted that there was marked exophthalmos with distinct enlargement of the thyroid body; the pulse was also unaccountably rapid. For nearly two years this patient was kept under appropriate treatment for the exophthalmos. At the same time abdominal swelling was observed; it developed into a well-defined tumour which extended for two inches above the umbilicus. The late Mr. Nunn advised operation. When the patient was admitted into the Samaritan Hospital in October, 1904, I found the exophthalmos marked, without nystagmus or defective sight. There were muscular tremors, and the pulse, even when the patient was kept quiet in bed, ranged from 132 to 140. Dr. C. Hubert Roberts examined her with me. Graefe and Stellwag's signs were absent; the thyroid body showed slight enlargement of the lateral lobes. The temperature never rose above 99° F. before operation. The patient's appetite was good; the tongue was rather glossy along the edges. I amputated the uterus above the cervix; the whole mass, which weighed 6 lb., consisted chiefly of a large interstitial fibroid; the left appendages were drawn up very high on the surface of the tumour and rotated to the right of the middle line. I was determined to save one ovary if possible owing to the patient's general condition, and was therefore well satisfied to find that the right ovary lay low down, quite outside the mass. In amputating the cervix I enucleated a large fibroid growth which had developed in the posterior wall of the uterus below the bigger fibroid and invaded the wall of the cervix. After the enucleation I passed the knife above the level of the os internum. Five years later the patient wrote to me saying that she had enjoyed good health ever since the operation, the periods had never returned, but no neuroses of any kind had developed. Dr. Tucker had recently detected renewed enlargement of the thyroid body and administered fresh thyroid tablets for two months, the enlargement steadily subsiding. The question of the relation of exophthalmos to the functions of the generative organs has recently been discussed by Pinard.[16] Condition of ovary removed: Normal in all four cases; sacrificed for surgical reasons.

Analysis of the case where the menopause was complete with distinct but mild symptoms.—Case 88. Age between 45 and 50. Single. Hæmorrhages: None, no menorrhagia. Size of

[13] Cases 17, 20, 24, 27, and 58. Case 20 was an instance where the periods continued for four years and perhaps longer, but there was amenorrhœa for six months in the second year. In Case 24 alone were flushings noted.

[14] Case 58.

[15] Not over six months; in Case 51 they continued for 16 months.

[16] "De l'Expression Symptomatique appelée Goitre Exophthalmique dans ses Rapports avec la Fonction de Reproduction chez la Femme," Annales de Gynécologie et d'Obstétrique, May, 1909, p. 257.

tumour: 2 lb. 5 oz., with a cyst in the left mesometrium (below ovary). Line of amputation: Above the os internum. Condition of ovary removed: Normal, but closely connected with the cyst in the mesometrium.

Menopause symptoms.—In Case 88 flushings and perspirations appeared in the third year, although there had not been a trace of show since the operation. They seemed to be associated with physical fatigue. On the other hand, the patient gained a stone in weight within three years, yet she had spit blood 15 years before the operation, and there were pulmonary complications during the first week after the removal of the uterus. It is not certain that the symptoms above noted were really due to suppression of the menstrual function.

Severe menopause symptoms.—Let it be remembered that in this subseries where one ovary was saved and the amputation carried above the os internum in 11 (all but 2 out of the 13) there was no instance of severe symptoms clearly attributable to the menopause.

Relation to cases in the old tables.—Once more I must explain that I have rearranged the groups of the "one ovary saved" series. In the older communication I included under one group all the cases where the menopause was complete and immediate after operation independently of menopause symptoms. The total was 15,[17] against 5 in the present group, Case 88 being added to Cases 74, 76, 95, and 100. In 8 of the old cases the line of amputation was above the os internum, as it was in all 5 of the new cases, making a total of 13 per cent. In 5 of the old cases the line was below. The total percentage of cases where the menopause was immediate and complete is 46·1 in this group and 18 in the entire series. Lastly, whilst in the group "both ovaries removed" in no less than 14 per cent. of the series, or 35 per cent. of that group, the menopause was complete with severe symptoms, in this "one ovary saved" series the percentage is 0, unless we consider that Cases 22, 32, 45, and 48 where sharp flushings occurred should be included under severe cases.

GROUP III.

Both ovaries saved.—Fifteen cases come under this heading—namely, Cases 65, 67, 68, 70, 71, 75, 82, 83, 85, 86, 87, 91, 92, 94, and 97. Age: One between 25 and 30 (Case 67), one between 30 and 35 (Case 71), three between 35 and 49 (Cases 65. 86, and 97), four between 40 and 45 (Cases 68, 70, 85, and 94), four between 45 and 50 (Cases 82, 83, 87, and 91), and two over 50 (Cases 75 and 92). Married or single: Eight married (Cases 68, 70, 71, 75, 82, 83, 86, and 91) and seven single (Cases 65, 67, 85, 87, 92, 94, and 97).

Results.—1. Catamenia regular after operation: 5 cases (Cases 67, 71, 85, 86, and 97). 2. Catamenia soon suppressed: 2 cases (Cases 68 and 91). 3. Menopause complete and immediate after operation: 8 cases (Cases 65, 70, 75, 82, 83, 87, 92, and 94).

Analysis of the five cases where the catamenia were regular after operation.—Age: One between 25 and 30 (Case 67), one between 30 and 35 (Case 71), two between 35 and 40 (Cases 86 and 97), and one between 40 and 45 (Case 85). Married or single: Two married (Cases 71 and 86) and three single (Cases 67, 85, and 97). Hæmorrhages: Severe in Cases 71 and 85; moderate in Case 86; none in Cases 67 and 97. Size of tumour: Bulky, reaching nearly to the umbilicus, Cases 71 and 97; weight 2 lb., Case 67; 1 lb. 2 oz., Case 86; 1 lb. 1 oz. (bleeding), Case 85. Line of amputation: Above the os internum in all five cases.

Catamenial history after operation.—In no less than four cases the periods were still regular according to the last report in Cases 71, 85, 86, and 97; that is to say, they continued for at least five years in Case 71, for at least three years in Cases 85 and 86, and for at least two years and one month in Case 97. In one case they continued regular for well over one year and then became irregular, but had ceased before the date of the last report; this was Case 67. The last period was observed about four years and nine months after the operation: it was unusually free. For several months in the third year there was bleeding from the left nostril about every three weeks, but the patient informed her physician, Dr. D'Esterre, that she felt queer at monthly times though there was no show, and the epistaxis, although regular, was not synchronous with the molimen. This fact makes me distrustful about taking periodical bleedings beyond the area of the genital tract for "vicarious menstruation." I shall return to the subject when I relate the after-history of Case 82. In the fifth year this patient, Case 67, suffered from occasional but irregular attacks of pain in the left breast.

Relation to cases in the old tables.—In three cases (Cases 21, 49, and 53) both ovaries were saved and the catamenia remained regular more or less for over two years. In Cases 21 and 49 amputation was above the level of the os internum, in Case 53 there was some doubt about the level. In the two cases where there was no doubt about it the periods were still quite regular three years after the hysterectomy, whilst in the third, Case 53, the periods were regular at the end of the same space of time, but there had been amenorrhœa for three months in the second year after operation.[18] Thus in eight out of the 21 cases in this group, or over 38 per cent., making 8 per cent. in the whole series, both ovaries were saved and the periods continued for over two years after the operation.

Analysis of the two cases where the catamenia were soon suppressed.—Age: One between 40 and 45, Case 68; and one between 45 and 50, Case 91. Married or single: Both married. Hæmorrhages: Moderate in Case 91, and none in Case 68. Size of tumour: Large lobulated tumour, Case 91; 2 pound tumour, Case 68. Line of amputation: Above the os internum in both cases.

Catamenia after operation.—In Case 68 the periods continued regular for over a year and then ceased altogether; the patient, lean at the time of the operation, grew stout. There were no neuroses of any kind, and the patient's health was quite satisfactory four years after the operation. In Case 91 the patient was highly neurotic, and on that account I was anxious about preserving both ovaries and a piece of endometrium, and I was able to do so although one of the lobes burrowed into the right broad ligament. The patient, although 47 years old, had been perfectly regular until the operation, but from experience I find that a sudden artificial menopause induced near the climacteric may be as severe as when induced in a young subject. Her medical attendant, Dr. T. G. Styan of Ramsgate, carefully watched the case after operation. The phenomenon observed in Cases 51 and 53 in Group II. was present in this instance. Irregular show was observed at least three times, whilst fulness of the breasts, always associated with the periods before the removal of the uterus, occurred very regularly every month for a year and a half. Then they ceased and the patient suffered for a time from depression of spirits with irritability of temper; there were no flushings. The neurosis soon passed away, and the patient within three years after the operation felt free from all physical or mental discomfort. Had the operation been less conservative I suspect that the neuroses would have been more marked.

Relation to cases in the old tables.—As in the present tables, there were two cases in which the catamenia were soon suppressed. In Case 40 the period occurred three times after the operation and ceased abruptly, in Case 46 they continued for 18 months and also ceased abruptly, and as in Case 68 the sudden menopause was not associated with any neurosis. In Case 40 the line of amputation passed above the os internum, in Case 46 there was some uncertainty about the level of amputation. Thus, in 4 per cent. of the entire 100 cases, or over 19 per cent. in this group, both ovaries were saved and the catamenia were soon suppressed; neuroses were observed in only 1 out of the 4, and in that instance the patient was already neurotic.

Analysis of the eight cases where the menopause was complete and immediate.—Age: One between 35 and 40 (Case 65); two between 40 and 45 (Cases 70 and 94); three between 45 and 50 (Cases 82, 83, and 87); and two still menstruating, though aged, in one case 50 (Case 75) and in the other 52 (Case 92). Married or single: Four married (Cases 70, 75, 82, and 83) and four single (Cases 65, 87, 92, and 94). Hæmorrhages: Severe in Case 94; menorrhagia hardly severe in four cases (Cases 65, 82, 83, and 92) and none in three (Cases 70, 75, and 87). Size of tumour: 8 lb. 4 oz. in

[17] Cases 7, 8, 9, 11, 15, 18, 22, 32, 45, 48, 55, 56, and 59. In Case 11 flushings had been present before the operation.

[18] As in Case 20 in the "one ovary saved" series. In respect to these cases I noted in my first communication how they showed the importance of a fairly long after-history. At a year and a half both patients seemed to have reached the menopause. I have rejected several similar cases where the history could not be clearly traced for at least two years after operation.

Subtotal Hysterectomy for Fibromyoma Uteri. Forty Additional Histories.

Case.	Date of operation.	Years of age, &c.	Character of fibroid.	Treatment of ovaries and line of amputation.	Date of last report.	Condition according to last report.
61	Feb. 19th, 1903.	37, Md.	11½ lb.; broad ligament opened up; hæmatoma of omentum, severe menorrhagia.	Both removed; above os internum.	May, 1909.	Strong and well, stouter; periods never seen since operation, flushings daily over face still.
62	March 3rd, 1903.	49, Md.*	2 lb. 6 oz., occupying whole posterior wall of uterus and cervix; metrorrhagia ten years; great anæmia.	One (left) saved; below os internum.	June, 1909.	Good health; show three or four times after operation; occasional flushings and vertigo still.
63	April 28th, 1903.	43, S.	Bulky fibroid, extending above umbilicus and down into pelvis; menorrhagia.	One (right) saved; below os internum.	February, 1907.	Fair health, obesity; distinct show twice since operation; occasional flushings and vertigo still.
64	Oct. 15th, 1903.	44, Md.	Fibroid, size of Tangerine orange, enucleated from anterior wall of supravaginal cervix; severe metrorrhagia, double aortic disease (see text).	Both removed; above os internum.	August, 1910.	Fair health, obesity; periods continued regular for two years; no flushings or other neuroses.
65	Nov. 12th, 1903.	38, S.	3 lb., hard, extending into pelvis; broad ligament invaded; menorrhagia, pressure symptoms.	Both saved; below os internum.	May, 1909.	Good health, gained flesh; no periods since operation, no flushings.
66	Dec. 12th, 1903.	40, Md.	15 lb., cystic perithelioma; rapid increase, tapped once; no menorrhagia.	One (left) saved; right ovary fibromatous; above os internum.	May, 1908.	Good health, obesity; no sign of recurrence, periods regular three years, no flushings (see author and Lockyer, "Two Cases of Uterine Fibroid showing Peritheliomatous Changes," *Journal of Obstetrics and Gynæcology of the British Empire*, xiv., 1908, p. 320).
67	Jan. 7th, 1904.	27, S.	2 lb. oval fibroid, pressing on bladder; no menorrhagia; temporary insanity after influenza four years before operation.	Both saved (see text); above os internum.	June, 1909.	Good health; periods regular for nearly two years, last period four and three-quarter years after operation; periodical epistaxis for about a year, when periods were disappearing; occasional pain, left breast.
68	Feb. 10th, 1904.	41, Md.	2 lb., bulky, rapid growth; no menorrhagia.	Both ovaries saved; above os internum.	March, 1908.	Good health, obesity; periods continued for over one year, no neuroses.
69	April 21st, 1904.	48, Md.	3½ lb. fibroid of cervix, portio vaginalis invaded; no menorrhagia; periods still regular.	Both ovaries removed (double hydrosalpinx); below os internum.	March, 1910.	Good health; one show shortly after convalescence, no flushings.
70	June 3rd, 1904.	40, Md.	8 lb. 4 oz., rapid growth; no menorrhagia.	Both ovaries saved; above os internum.	August, 1908.	Good health; no periods since operation, no flushings.
71	June 14th, 1904.	34, Md.	Bulky fibroid in anterior wall, undergoing myxomatous degeneration; severe metrorrhagia; thickened endometrium removed by curette one month before operation.	Both ovaries saved; above os internum.	May, 1909.	Good health, obesity; periods still regular, coloured show four-weekly; occasional flushings third year.
72	June 21st, 1904.	49, Md.	1 lb. 9 oz. multiple interstitial myomata; menorrhagia one year.	One ovary saved; above os internum.	June, 1909.	Good health; periods regular for seven months after operation, then within six months irregular flushings and complete menopause.
73	Oct. 4th, 1904.	43, Md.	4 lb. hard fibroid, pressing on bladder; cervix and broad ligament involved.	Both ovaries removed; below os internum.	July, 1909.	Good health; no periods since operation, flushings once or twice weekly for a year and occasionally still; dyspeptic.
74	Nov. 3rd, 1904.	41, S.	6 lb.; large mass, extending into posterior wall of cervix; menorrhagia (exophthalmos, tachycardia).	One ovary saved; above os internum.	May, 1909.	Very good health; no periods since operation.
75	Jan. 24th, 1905.	50, Md.	2 lb. 12 oz. hour-glass fibroid, dragging on bladder; no menorrhagia.	Both ovaries saved; above os internum.	May, 1909.	Sickly; no periods since the operation; flushings, perspirations, and debility, continuing till date of last report.
76	Feb. 14th, 1905.	38, S.	Large fibroid reaching above umbilicus, rapid growth; severe menorrhagia.	One ovary saved; above os internum.	May, 1909.	No periods since operation, no flushings; dyspepsia, occasional tympanitic distension of abdomen.
77	June 1st, 1905.	42, S.	Fibroid in anterior wall of uterus, another in left broad ligament; severe pelvic pain; menorrhagia.	Both ovaries removed; above os internum.	September, 1910.	Slight show four times since operation; severe flushings and headaches for several months over three years after operation, then insanity, following mental shock and influenza.
78	June 17th, 1905.	36, Md.	2½ lb. "cystic perithelioma," rapid growth; emaciation, menorrhagia.	Both ovaries removed; above os internum.	February, 1908.	Good health, no sign of recurrence; no periods since operation, flushings one year (see author and Lockyer, loc. cit., No. 66).
79	July 6th, 1905.	43, S.†	8 lb. 2 oz., rapid growth, no menorrhagia.	One ovary saved; above os internum.	July, 1909.	Good health; periods regularly for one year after operation, last show about six months before date of last report.
80	Oct. 24th, 1905.	35, S.	2¾ lb.; menorrhagia (adenomatous polypus discovered in uterine cavity).	One (left) ovary saved; above os internum.	November, 1910.	Good health; periods regular but very scanty, no flushings.
81	Dec. 12th, 1905.	44, S.	7 lb. 2 oz. invading broad ligament; painful pressure symptoms; slight menorrhagia.	Both removed (corpus luteum hæmatoma in left); above os internum.	May, 1909.	Good health; no periods since operation, occasional flushings.
82	Jan. 23rd 1906.	47, Md.	7½ lb.; very firm pressure symptoms, menorrhagia (see text).	Both saved; above os internum.	July, 1908.	Fair health, plethoric (see text); parametritic abscess and sinus, no show of blood from vagina after operation; blood escaped from sinus (see text) regularly for three months, then irregularly with flushings; last show two years and four months after operation, then flushings ceased.

* Still menstruating. † Sister to Nos. 6 and 12.

Subtotal Hysterectomy for Fibromyoma Uteri. Forty Additional Histories (Continued).

Case.	Date of operation.	Years of age, &c.	Character of fibroid.	Treatment of ovaries and line of amputation.	Date of last report.	Condition according to last report.
83	Feb. 1st, 1906.	46, Md.	2½ lb., three lobes, one submucous; menorrhagia.	Both ovaries saved; below os internum.	October, 1908.	Fair health; no periods since operation, no flushings.
84	March 21st, 1906.	38, Md.	Small three-lobed tumour; broad ligament opened up; pressure symptoms, no menorrhagia.	Both ovaries removed; below os internum.	June, 1909.	Good health; no period since operation, severe flushings and perspirations for a few months after operation.
85	May 15th, 1906.	40, S.	1 lb. 1 oz., multiple fibroids, some submucous; severe menorrhagia.	Both ovaries saved; above os internum.	May, 1909.	Good health; periods still present though scanty; flushings and faintness after each period till two years and five months after operation; obesity.
86	May 17th, 1906.	38, Md.	1 lb. 2 oz., spherical fibroid; menorrhagia.	Both ovaries saved; above os internum.	June, 1909.	Good health; periods still present and regular, occasional pains at periods, no flushings.
87	June 26th, 1906.	45, S.	2 lb. 1 oz.; increasing quickly; abdominal pains; no menorrhagia.	Both ovaries saved; above os internum.	May, 1909.	Good health, except dyspeptic pains; no periods since operation, no flushings.
88	June 28th, 1906.	46, S.	2 lb. 5 oz., pedunculated myoma and small interstitial myoma in anterior wall; cyst left mesometrium below ovary, dysuria, no menorrhagia; hæmoptysis at 31.	Right ovary saved; above os internum.	May, 1909.	Good health, gained weight; no advance of pulmonary symptoms; no periods since operation; recently occasional flushings and perspirations.
89	July 10th, 1906.	41, S.	1½ lb., multilobular; left broad ligament opened up; pressure symptoms; menorrhagia.	One ovary saved, the other was cystic and contained large hæmatoma; above os internum.	June, 1909.	Quite well; periods regular, though scanty, no flushings.
90	July 17th, 1906.	41, Md.	3½ lb., cervix involved, rapid growth; abdominal pains, dysmenorrhœa, no menorrhagia.	Both removed (cystic); below os internum.	June, 1909.	Good health, obesity; no periods since operation.
91	Oct. 29th, 1906.	47, Md.	Large multilobular fibroid; no menorrhagia.	Both ovaries saved; above os internum.	June, 1909.	Good health; periodical molimen (see text) for a year and a half, with show on three occasions; then "depressed spirits" for a month or two, no flushings.
92	Nov. 20th, 1906.	52, S.	Mass of interstitial fibroids; pressure symptoms and menorrhagia.	Both ovaries saved; above os internum.	March, 1910.	Good health; no periods after operation; no neuroses.
93	July 16th, 1907.	50, Md.	Highly-lobulated fibroid, left mesosalpinx opened up; adhesions to mesentery, chronic obstruction; periods still present, becoming irregular.	Both ovaries removed; above os internum.	January, 1910.	No periods since operation; no menopause symptoms (see author, "Chronic Intestinal Obstruction due to Adhesions of a Uterine Fibroid to the Mesentery," THE LANCET, Nov. 9th, 1907, p. 1309).
94	July 23rd, 1907.	42, S.	2 lb. 6 oz., uterus infested with small fibroids; menorrhagia, recently amenorrhœa; great anæmia.	Both ovaries saved; above os internum.	August, 1909.	Good health, gained colour and flesh; no periods since operation; moderate flushings three to five months after operation; occasional tenderness in region of right ovary.
95	July 28th, 1907.	41, Md.	3 lb. 2 oz., rapid growth; menorrhagia.	One ovary saved; above os internum.	July, 1909.	Good health; no periods since operation, no flushings.
96	Sept. 22nd, 1907.	38, Md.	Polypus (adenoma) removed January, 1906; hæmorrhages, August, 1906, till operation; interstitial growth as big as a walnut, also a submucous adenoma.	Both ovaries removed; a little below os internum.	September, 1910.	Good health, obesity; no periods since operation; no menopause symptoms.
97	Nov. 5th, 1907.	38, S.	Large sessile subserous tumour, 4 in. diameter, and smaller but similar tumour, both on posterior aspect of uterus; pressure symptoms, no menorrhagia.	Both ovaries saved; 1 in. above os internum.	December, 1909.	Good health; periods still regular, four-weekly, except on two recent occasions, when interval was only two weeks.
98	Jan. 21st, 1908.	35, Md.	4½ lb., deeply lobulated, one lobe blocking Douglas's pouch; no menorrhagia.	Right ovary saved; above os internum.	January, 1910.	Good health; slight, regular periods for a few months after the operation; flushings and headache.
99	Jan. 28th, 1908.	38, Md.	Fibroid size of turkey's egg on fundus, retroversion; right hæmatosalpinx, many adhesions; no menorrhagia; see "Hæmatosalpinx with Acute Symptoms following Retroversion of Fibroid Uterus," Proceedings of the Royal Society of Medicine (Obstetrical Section), i., p. 174.	Both ovaries removed; above os internum.	January, 1910.	Good health, gained flesh; no periods since operation, but severe hot flushes regularly for a few months, now about every two months and less severe.
100	Feb. 6th, 1908.	28, S.	1 lb. 8 oz. firm fibroid posterior wall, growth rapid; menorrhagia.	Left ovary saved; ½ in. above os internum.	February, 1910.	No periods after operation; no unpleasant symptoms.

Case 70; 7½ lb. in Case 82; 3 lb., opening up broad ligaments, in Case 65; 2 lb. 12 oz., dragging on bladder, in Case 75; 2 lb. 10 oz. in Case 87; 2½ lb. in Case 83; 2 lb. 6 oz. in Case 94; and small in Case 92. Line of amputation: Above the os internum in five (Cases 70, 82, 87, 92, and 94) and below in three (Cases 65, 75, and 83).

History after operation.—In five cases (Cases 65, 70, 83, 87, and 92) there was no show of any kind, and none of the patients suffered from flushings or other neuroses. Cases 75, 82, and 94 deserve some consideration. Case 75, age 50, married 29 years; first husband lived 20 years; patient remarried shortly after his death; second husband still living. Never pregnant. Hæmorrhages: No metrorrhagia. Notwithstanding the patient's age, the periods were absolutely regular, there was free show for about three days associated not with pain, but with a feeling of languor. Size of tumour: A large lobular mass weighing, with uterus, 2 lb. 12 oz.; the anterior lobe sprang from the anterior wall, the posterior from the posterior wall of the uterus. The posterior lobe had fallen back into Douglas's pouch which it filled, the cervix was raised high up behind the pubes, and the anterior lobe tipped upwards so as to drag on the bladder. Its upper limits lay within three inches of the umbilicus. Line of amputation: Below the os internum.

Catamenial history after operation.—In May, 1909, the patient, in reply to my inquiries, wrote: "I have not seen any monthly period since my operation. I suffer very much with flushings and perspirations of the face and lower parts, at times." She also had bleeding hæmorrhoids and neglected pyorrhœa alveolaris. Before the operation this

patient was a stout woman, with suborbital pigmentation and marked pyorrhœa, which, as above stated, she neglected after convalescence. She had never suffered from any serious illness. The pulse and temperature were normal. She had been under Mr. A. C. Butler-Smythe's observation for a few weeks owing to extreme dysuria caused by the falling back of the tumour, as above mentioned. The operation was not very easy owing to the shape of the mass; there was a heavy drag on the broad ligaments which were clamped and divided, then the tumour was drawn out of the wound, but I was obliged to amputate low down, below the os internum. The after-history is mainly of interest in respect to the conditions noted above as reported before the operation. The patient's menopause was belated; perfectly regular up to the date of operation, it never reappeared afterwards. The pyorrhœa could not fail to have a bad influence on the patient's health, but one fact remains—namely, the appearance of characteristic flushings such as are observed both in healthy and in sickly women in the natural, and also in an artificial, menopause. In my reference to Kelly and Cullen's opinion on the question under consideration, I explained how I thought it advisable to record instances of late artificial menopauses of which Case 75 was an eminent and instructive example. Many natural menopauses in healthy women are more severe, and a subject with pyorrhœa cannot be called healthy. Would the flushings have been milder or absent altogether had the amputation been made above the os internum? Would they have been more severe had the ovaries been removed? I feel fairly sure that a positive reply may be given to the latter question. The former, however, cannot be solved; we cannot calculate how far age and the disease existent at the time would prove disturbing factors, however beneficial the saving of the endometrium might be. Kelly, as I have explained, has recently introduced a method of operation designed to preserve endometrium. I hold it very important that late artificial menopauses, as well as earlier ones, should be carefully reported if we desire a thorough knowledge of the value of this conservative step, one of the main questions to which I have turned attention in this communication, and on that account I have dwelt on Case 75 at some length.

In Case 82 a troublesome complication occurred which raises once more the question of vicarious menstruation. Age 47, married 30 years, two children and one abortion; the second child was 27 years old; the abortion occurred a year earlier. The patient was robust, plethoric, and subject during recent years to attacks of vomiting. The urine occasionally contained a trace of albumin. Catamenia occurred every three weeks, lasting for nine days; the show was very free and clots were expelled after attacks of pain compared by the patient to those of parturition. Size of tumour: It was multilobular; one lobe reached to the left hypochondrium. I operated in January, 1906. When the big lobulated mass was drawn out of the abdominal wound I met with some difficulty in reaching the front of the cervix owing to the presence of two subserous fibroids projecting from the lower segment of the uterus. I made a serous flap by dividing the peritoneum over the fibroids horizontally and turning it down. The uterine arteries were then secured, but in reaching the right artery and vein, the parametric connective tissue, hyperplastic and hyperæmic, was unavoidably subjected to much handling. I amputated the uterus a little *above* the cervix. The stump, which was not very fleshy, was covered over with the serous flap, No. 3 Van Horn catgut being employed. The right parametrium suppurated and the abscess was opened by an incision in the right groin on March 9th.

History after operation.—No show of blood passing from the vagina was ever observed after the operation. The sinus gave great trouble, and in the last weeks of July, August, and September, 1906, about the time that the period was due, the patient noticed that blood issued freely for several days from its orifice. Flushings with sensations of fulness in the head came on. On March 18th and April 17th, 1908, blood began to escape from the sinus and to discharge steadily for three days, ceasing abruptly at the end of that space of time. In the week ending May 23rd, 1908, the same phenomenon occurred when the patient was under my observation. The flushings then ceased, and I understand that the periodical discharge of blood has not recurred. The patient's general health remained good, although there was some œdema of the right leg, but the plethora and stoutness were more marked than before the operation, when I last saw her in the summer of 1908.

I think it right to record this case where the after-history was somewhat unsatisfactory. I do not think that the infection must have certainly been derived from the piece of endometrium left in the stump. The tissues in the right parametrium were opened up and the catgut used for the flap probably carried infection into the parametric tissue. I had some trouble with catgut in other cases at the same time, and complications ceased when I discarded that which I had in store and made use of the same material from another stock. The more we learn through experience how to ward off infection the fewer will such cases become even when we spare some endometrium. Not many years ago the tolerably regular hæmorrhages from the sinus would have been reckoned by most gynæcologists as "vicarious menstruation." But in relating Case 67 I noted how Dr. D'Esterre reported that the molimen was regular for some time without show, whilst there were regular attacks of epistaxis, but the molimen and the epistaxis were not synchronous. In Case 82 there was no regular molimen, but the hæmorrhages recurred monthly for three months in the first and in the third year, being associated on the latter occasion with flushings. It is much more likely that the hæmorrhages in Case 82 were directly related to the catamenial function, but I am sure that no physiologist would feel certain about their precise signification.

Case 94: The patient was a single woman, aged 42 years. Hæmorrhages: Chronic menorrhagia, causing great anæmia; more recently no regular period, but irregular passage of clots. Size of tumour: A bilobed, hard mass occupying the right iliac fossa; the outer was a subserous spherical fibroid about 2 inches in long diameter, the inner being the body of the uterus infested with small interstitial fibroids; there were also three small growths of the submucous type all fibromyomatous. No adenomatous polypus existed. The whole weighed 2 lb. 6 oz. Line of amputation: Above the os internum.

Catamenial history after operation.—I examined the patient two years and one month after the removal of the tumour. There had been no period since the operation. In the course of the first year she had lumbar pains like the molimen which occurred at the beginning of the normal periods before her illness, but this molimen was never regular for several months as in Case 91. At the same time there were occasional flushings. Whilst these phenomena were present the anæmia caused by the hæmorrhages from the fibroid steadily disappeared, the patient's complexion became rosy, and she gained flesh without growing corpulent. The right ovary was slightly enlarged and tender to the touch. The flushings were probably associated with the changes in the circulation due to the removal of the sole cause of anæmia. The same symptom, but far more severe, was present for a time after operation on one of the worst cases of bleeding fibroid I have ever had under my charge, but as it must be numbered 102 in my series of hysterectomies for fibroid with authenticated after-histories, it could not be included in these tables. The patient was greatly reduced by periodical bleedings which had gone on for nine years. Both ovaries were removed, being diseased; the uterus was amputated above the level of the os internum. For a few months flushings with "attacks of a very cold sensation" gave trouble but completely disappeared, and the patient, 44 years of age, was in good health two years after the operation. This case is not under the same group as Case 94, but in both the sudden stoppage of prolonged hæmorrhages have to be taken into account.

Relation to cases in the old tables.—Only one case (Case 50) came under the present group. There was a little show of blood for five weeks about 14 months after the operation, but this show could hardly be reckoned as catamenial. Nearly one year later it had not recurred. The patient was then under the impression that she occasionally felt a slight molimen. She was only 30 years of age when the uterus was removed. This case is really akin to Cases 65, 70, 83, 87, and 92; the molimen, however, should, I suspect, be better ranked as a neurosis. Thus in 9 per cent. of the 100 cases, or in over 42 per cent. of this group, both ovaries were saved and the menopause was complete and immediate. Altogether the results were favourable, though in three (Cases 75, 82, and 94) troublesome symptoms

developed, but certain complications had to be taken into account.

Summary of the Complete Series of 100 Cases.

In 40 cases, or 40 per cent., *both* ovaries were *removed*, and the menopause was neither immediate nor complete in 4; in 3 out of the 4 the amputation was above the os internum. In 39 cases, or 39 per cent., *one* ovary was *saved*, and the menopause was neither immediate nor complete in 21; in 18 out of the 21 the amputation was above the os internum. In 21 cases, or 21 per cent., *both* ovaries were *saved*. The menopause was neither immediate nor complete in 8; in 7, possibly all, of the 8 the amputation was above the os internum.

Granville-place, W.

GANGRENE OF LIMB DURING CONVALESCENCE FROM DIPHTHERIA.

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BY diligent search in the libraries of the Royal Society of Medicine and of the Royal College of Surgeons of England it has been possible to find records of nine cases of gangrene following diphtheria. We do not mean gangrene of the parts near the situation of the disease, such as sloughing of throat or tonsils; we refer to gangrene of parts distant to the disease, such as of a limb. That such occurrence is very rare is proved by the fact that Dr. F. F. Caiger of the South-Western Fever Hospital in 17 years' work had never heard of a case, as well as by the paucity of records in the literature. In consequence it struck us that it would be a useful work to collect, together with our case, the various items of knowledge of this rare event, so widely scattered through the literature, making nine cases in all. In connexion with this we acknowledge our thanks to Dr. J. D. Rolleston of the Grove Hospital, Tooting, for the details in his letter to Dr. Caiger.

The gangrene in the cases mentioned above was connected with a definite vascular lesion. In seven cases the lesion was a definite embolism; in one it is termed Raynaud's disease, and in two the origin is as obscure as the papers published in Madrid and Venice about 24–34 years ago, and now unobtainable. In no less than 6 out of the 9 cases the leg was affected; in one there were widespread gangrenous lesions in addition. In two other cases there was a widespread necrotic affection. Thus it would appear that in 6 out of the 9 cases the gangrene was due to a vascular lesion, and that in 2 it was due to a vascular lesion with the addition of an infective or septic character in the embolus. In only one case, that which we now record, was the diphtheria treated with antitoxin. The majority of the patients naturally were children.

The origin of these emboli seems to be in the auricles, particularly the left auricle, because in only one case was there also a pulmonary embolism. The embolus occurs during convalescence, at the time of reaction from the illness; in our case on the seventeenth day of the illness. It seems to occur only after a severe diphtheritic attack. Subsequently to the embolism the temperature rose to 99·8°F. from subnormal, to which level it subsided, rising again in a few days' time from septic absorption from the gangrenous part.

It is a curious fact that surgically the femoral or popliteal artery can be ligatured in young subjects without causing gangrene. And yet a post-diphtheritic embolus should cause gangrene. The difference must be due to a thrombus extending from the embolus; and in diphtheria, we would suggest, a arteritis, having arisen from endarteritis, preventing the dilatation of the branches to form an anastomotic circulation and aiding the extension of the thrombus; in addition there is the dystrophy of the diphtheritic paralysis and the possibly infective condition of the embolus.

We will give a full account of our case first and then reproduce briefly those obtainable from the literature.

Diphtheria; threatened cardiac failure; albuminuria; paralysis; gangrene of foot; amputation of leg; recovery.—The patient was a boy, aged 6 years. The illness began on Nov. 28th, 1908, with shivering and vomiting. On the 29th the throat was sore but no membrane was visible. On the 30th there was a thick membrane on the throat. 4000 units of antitoxin were injected and the patient was removed to Southgate Isolation Hospital. Dec. 1st: Antitoxin, 4000 units injected. 4th: A piece of tough blood-stained membrane, 2 inches by 1 inch, was syringed from the throat. 5th: Vomiting and pains in the stomach. 12th: The patient vomited for four hours and was threatened with collapse and cardiac failure. The pulse could not be felt and the extremities were cold and the condition remained much the same for three hours. There was gradual improvement during the night, but no nourishment could be retained. 13th: The vomiting still persisted. All nourishment by mouth was stopped except water given in a spoon occasionally. 14th: Nutrient enema of eggs, milk, and brandy given every four hours. 15th (seventeenth day): Very acute sudden cramp in the right leg, the patient screaming with agony. Hot flannels and bathing in hot mustard-water gave temporary relief. 16th: Cramp at frequent intervals, relieved by laudanum fomentations. 17th: The right foot and leg were slightly discoloured in patches, giving the appearance of bruises. 18th: The patches of discolouration over the right foot and leg up to the knee were more marked and were purple in colour, the patches over the foot and lower part of the leg being larger and darker than those higher up. The urine was very scanty; albumin ½. Taking milk from spoon. 19th: Nutrient enemata discontinued. Albumin ¼; no vomiting. 22nd: Albumin down to ⅛ again. The patches of discolouration at the upper part of the leg were beginning to fade and subside, while those over the foot and lower part of the leg were larger and deeper in colour. The leg was tender. 24th: No albumin. The leg was kept wrapped up in wool. 25th: A little chicken and vegetable given. 28th: The patient was feeding well, taking three eggs daily. The discolouration of the leg had practically subsided down to below the juncture of the middle and lower third of the leg and foot. The patches over the foot and the lower part of the leg had coalesced so that the foot was one even purple colour. Jan. 1st, 1909: The patient complained of pain in the foot and leg; he kept the leg flexed and lying on its outer side, and resented its being touched. 3rd: A blister appeared on the ankle, and the toes were black, dry, and shrivelled. 4th: Fluid nourishment produced coughing. The voice was very nasal, and the general condition very paralytic. 5th: The patient was very weak and he seemed to be sinking. He had great difficulty in swallowing, especially solid food. 7th: The patient was gradually improving, but the pulse, which had been very rapid all along, was still so—130 to 160. He slept well. 15th: Improvement maintained; well-marked line of demarcation at the junction of the lower and middle third of the leg, and sloughing rapidly immediately below the line of demarcation. 30th: The leg was amputated just below the knee. On Feb. 12th the stump had quite healed and the pulse was normal. The patient was in excellent health and was putting on flesh. On March 15th he was discharged.

During the operation, on the forty-sixth day after the embolism and the sixty-first of the illness, the popliteal artery was divided just above its bifurcation. Its lumen was free from clot; it was markedly small and the walls were thin. Hence the embolus was above the bifurcation of the popliteal artery, possibly in the femoral artery at the bifurcation of the superficial femoral. This is supported by the clinical observation that on the third day after the embolism (Nov. 18th) the discolouration reached the level of the knee. The discolouration receded from the knee as the anastomotic circulation improved, and finally established a line of demarcation three inches above the ankle. After the amputation the arteries in the stump were followed until they deliquesced. Their lumina were small but free from clot.

Brief Details of Cases taken from the Literature of the Subject.

POUPON. *Embolie de l'artère fémorale dans la convalescence de la diphthérie* (*Le Progrès Médical*, *1883*, *p. 10*).—Patient, aged 7½ months, admitted on Feb. 17th, under the care of Dr. Bouchut for "croup." Tracheotomy on the same day by M. Launois. She was discharged March 2nd, with the wound completely closed, and in very satisfactory health. During her first stay in hospital the urine showed some

albumin, but there was none subsequently. Readmitted on March 13th with intense dyspnœa, fever, and facial pallor. She was said to have discharged some false membrane in the interval, but expectoration of masses of mucus are often mistaken for such by parents. There was no diphtheritic paralysis. Temperature 102° F.; respirations 40 per minute. Dulness at base of right lung. At this level there was a slight expiratory murmur with pleuritic rub. Dr. Bouchut diagnosed pulmonary embolism. Auscultation of the heart was not performed thoroughly on account of the respiration causing a considerable murmur over the tracheal wound which had reopened. Pulse 80. March 14th: Patient complained of pain over the right popliteal space. In the evening there were violet-coloured patches over the whole foot; they were of the size of a franc-piece and the violet hue was that of gangrene. The leg was cold and the pulsations in the popliteal, and even in the femoral artery were imperceptible. The temperature was 31° C. in the right leg and 37° C. in the left. Sensation was absolutely abolished at the level of the patches of gangrene. Next morning (March 15th) Dr. Bouchut diagnosed embolism of the popliteal artery. The child died an hour after his visit.

Necropsy permitted on leg only. In the crural artery, starting from the ring of the great adductor, and proceeding to the centre of the popliteal, a clot three centimetres long was found looking like a pencil. The clot was brownish-grey in colour and was not adherent to the wall. Here and there it showed clearer striæ. It occupied the whole lumen of the artery.

It seems clear that the clot in the femoral artery was due to an embolus around which the thrombus had formed, composing, as in all cases of this nature, almost the whole of the clot.

HYDE AND POWELL. *Case of Raynaud's disease following diphtheria (Brit. Med. Jour., 1886, vol. i., p. 206).*—Patient, aged 48 years, was admitted to Worcester General Infirmary on July 14th, 1884. He had been in the Royal Horse Artillery for 22 years, and was drill instructor to the police for six years. No illness except one or two "colds" from wet feet when on night duty. No syphilis, gout, or rheumatism. Family history good. On May 12th he reported himself ill with sore-throat. A week later he had sudden loss of voice, for which he was treated by a practitioner who said that he had diphtheria. During convalescence his nose became blue and swollen in one night, resembling "an overgrown mulberry." This was followed in a day or two by similar appearances in pulps of finger of the right hand and in the ears. In the following week the ring and little finger of the left hand were similarly attacked, causing pain. In three weeks the fingers were black along their entire length. The blackness then receded to the middle joints, where blebs formed between the sound flesh and mortified parts. Subsequently black patches formed on the second and third toes of the right foot and along its outer margin. His mouth and tongue became swollen and painful, the latter being livid and an ulcer forming near the lip. His nose was obstructed but was cleared by his sneezing out some tough brown matter.

Examination day after admission: Well built, fairly healthy looking; had lost some flesh and become weaker from illness. Hair grey; no arcus senilis, nor signs of general anæmia. Nose cold and livid. Edges of helices of both ears dark blue. Ungual, and part of middle phalanges of ring and little fingers of right hand were black, dried up, and completely mummified. The fingers of the left hand and both thumbs were cold, glossy, devoid of hairs, and of dusky red colour at the tips. Ungual phalanges of second and third toes of the right foot were also sphacelated. Sphacelated portions of fingers were separated from sound flesh by bullæ containing turbid serum. Physical examination showed chest normal. Radial, ulnar, and posterior tibial arteries normal. No paralysis, sensory or motor. Voice regained. Temperature normal. Urine contained little albumin, no casts or sugar. Blood showed increase of white corpuscles. Digestive functions good. Slight pain and tingling in fingers occasionally.

Improved rapidly under dietetic and tonic treatment. Went for change of air on Sept. 3rd. The gangrenous fingers were amputated on his return. Sloughs separated from ears on his return. Sloughs separated from ears and toes without interference, leaving granulating surfaces beneath which healed rapidly. Stumps of gangrenous fingers slow in healing; thumbs and ears still cold and discoloured, but he was well enough to resume work.

BRETON (M.). *Paralysie Méta-diphtérique. (La Médecine Moderne, Paris, 1902, Vol. XIII., p. 216. Société de Pédiatrie-Séance de 17 Juin, 1902.)*—M. Breton has had under his observation a little girl, aged 3 years, suffering from hemiplegia due to multiple embolism, the sequela of diphtheria. The child suddenly manifested paralysis of the right side, and at the same time livid patches, followed by gangrene, appeared on the left leg. The hemiplegia persisted for eight months, although the child had the power of walking—dragging the leg along. There had been present in this case without doubt endocarditis, cardiac thrombosis, and multiple embolisms.

VEDDER (JOHN). *Gangrene of the leg caused by embolism following diphtheria. (Transactions of Medical Society, State of New York, 1879, p. 259.)*—A boy, aged 8 years, whose health had been generally good. First visited on Dec. 21st, 1877. Diphtheria, severe attack, but prognosis favourable. Throat and nares covered with thick membranous deposit; profuse discharge from nose; breath offensive; slight constitutional disturbance; fever moderate. Was visited every day up to the 29th. A sister was taken ill with the disease meanwhile. Continued to visit her after convalescence was established in the boy. On the 31st there was nothing unusual in the boy's condition; convalescence progressing well. In the afternoon of the same day he complained of numbness and pain in the right leg from the knee downwards; pain mostly in the knee, and below that there was sensation of numbness. Leg cold and of waxy appearance. Knee only painful, and upon slightest motion. Pain could not be produced in the leg either by pinching or pricking with needle. Leg dead from knee downwards; it was white and cold. On the next day the leg was of light mahogany colour, which gradually grew darker till it was nearly black. The bottom of the foot became quite dark, dry, hard, and shrivelled up in a few days. Pulse slow and weak at right wrist; normal at left. Respiration good. Mind clear. Jan. 5th or 6th: Arm on right side paralysed. Jan. 6th and 7th: Slight paralysis of tongue and loss of speech. The boy died on Jan. 11th at 2 A.M. He was conscious during the whole illness till a few hours before death. Two days before he had complained of pain in the left leg when it was moved. The patient was of excitable temperament. No necropsy.

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IMPORTANCE OF REMOVING THE UTERUS IN CERTAIN DISEASED CONDITIONS OF THE ADNEXA.[1]

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ALL gynæcologists of experience, and especially those of obstetric experience, appreciate fully the necessity of conservative surgery in dealing with diseases of the uterus and adnexa. For example, we perform myomectomy rather than hysterectomy, resection of the ovary and tube rather than removal of these organs in women who have not passed the reproductive age; and all of us, I feel sure, can give examples of pregnancies occurring and continuing to term after such operations. Only the other day a medical man informed me that a patient, upon whom I had operated two and a half years ago and where I was only able to save one tube and a small portion of the ovary, had given birth recently to a full-time healthy child.

Appreciating so fully the importance of conservative treatment of the organs we have to deal with, I think we occasionally fall into the mistake of not being radical enough in our operative procedures in those cases of extreme disease where it is obvious that nothing can be done by conservative measures. We are especially inclined, I think, to leave the uterus behind in certain ovarian and grave tubal conditions when we would obtain much better results, both immediate and remote, if we removed the uterus along with the diseased adnexa.

As far as one can judge at present, and the recent researches of Carmichael contributed to this society go to support this, the uterus is merely a bag for retaining the impregnated ovum. It contributes no internal secretion.

I now wish to direct attention to two diseases of the adnexa in which I believe it to be of the very greatest importance that the uterus should be removed along with the appendages. The two diseases I wish to refer to are malignant disease of the ovary and pronounced pyosalpinx.

Malignant Disease of the Ovary.

The frequency of malignant disease in ovarian tumours is variously stated, but it would appear to be found in about 15–20 per cent. of all cases operated upon. In my own experience it has not been quite so high as this.

Within the last year or two it has become my custom in all doubtful malignant tumours, and in all double ovarian tumours, to remove the entire uterus along with these growths. My reasons for adopting this radical treatment are twofold. First of all the experience of other operators that more satisfactory results are obtained with such procedure, but particularly my own personal experience in a few cases, which I shall now very briefly refer to.

Two and a half years ago a patient with an ovarian tumour was sent to me and I opened the abdomen and removed the growth, and the pathologist reported it was a sarcoma. About a year later I had to remove the uterus for malignant disease; at the time of the first operation the uterus and other ovary appeared perfectly normal.

Another case was one in which I saw a patient who

[1] A paper read at a meeting of the Edinburgh Obstetrical Society.

had been operated upon for ovariotomy and who presented features of malignant disease of the uterus and surrounding parts nine months later; at the time of the first operation the surgeon had not deemed the condition malignant.

Twice I have seen a co-existing adeno-carcinoma of the uterus and carcinoma of the ovary. I show you here the coloured drawing of the second case, and you will observe at a glance that I could easily have removed the malignant growth of the one ovary and left behind the other healthy ovary with the uterus apparently healthy. Such a proceeding in this case would have been most unfortunate, for the malignant growth in the uterus would probably have been allowed to continue for some time before a second operation was thought of.

The real practical difficulty is in deciding in many cases when the growth of the ovary is malignant.

About six weeks ago I operated upon a lady for an ovarian tumour. It was connected with the left ovary and was burrowing down into the cellular tissue about the rectum; the other ovary was also diseased, and so I removed both ovaries and the entire uterus. I hardly thought the ovarian growth was malignant, but I had the specimen very carefully examined. I was greatly surprised to get the report from Dr. J. H. Teacher that a small portion of the growth showed evidence of early malignancy.

It is my practice now to remove both ovaries and the uterus in all growths that look malignant or suspiciously malignant, and to remove the entire uterus and ovaries in all bilateral ovarian growths where the ovaries are hopelessly destroyed.

Pyosalpinx.

The other condition to which I wish specially to refer is pyosalpinx. The cases of this group, however, which I intend dealing with are only those cases of extreme salpingitis. I will not refer at all to the milder cases of salpingo-ovaritis, in which portions of the ovaries and tubes can often be conserved, and where the operation is of no great difficulty.

In common with most gynæcological surgeons, it used to be my custom to remove the pus-tubes and leave the uterus behind. In many cases I found it extremely difficult to remove the tubes, and I very frequently ruptured them during the operation. My results were moderately satisfactory, for I had a mortality of about 10 per cent. What disappointed me, however, was that in not a few cases the patients continued to have a certain degree of abdominal uneasiness, and in one or two cases so great was this that I was compelled later to remove the uterus. It was chiefly for this reason that I abandoned this method of dealing with the condition.

During the last two and a half years I have in all cases removed the uterus along with the distended tubes. My results from such a procedure have been infinitely more satisfactory than formerly. Neither in my private nor in my hospital cases have I had a single death, and that in spite of the fact that I have had to repair tears in the bowel more than once, and on three occasions have been compelled to resect large portions of the gut. In carrying out the operation I have only twice ruptured the sac. I am quite prepared to admit that rupturing a pyosalpinx during operation is frequently attended with no ill-effects, for in so many cases the pus is sterile and the individual has become immune to the particular organisms present; still, in a few cases pus tubes contain most virulent organisms and these in a very active state. More particularly is this seen in cases where the salpingitis has followed a comparatively recent parturition.

About a year ago I removed with extreme difficulty the uterus and pus tubes in a case of pyosalpinx, which resulted from an infection after an abortion. The patient was lying in my ward in the Maternity Hospital for several weeks. Occasionally she was a little better and the febrile disturbances subsided, but for the greater part of the time she had a temperature of 100° to 101° F., running up sometimes to 102° and 103°. I removed these tubes and uterus without spilling any pus, and I was well pleased that I had succeeded in doing so, for the pus gave a mixed culture of streptococcus and bacillus coli.

In connexion with the spilling of pus, although it is very generally not of very serious moment as regards causing a general peritonitis, it is very apt to lead to the infection of the fresh abdominal wound, and we all know how important it is that the abdominal wound should heal without the slightest suppuration.

In dealing with pyosalpinx my practice is as follows. I make an extensive longitudinal incision; in such cases it is a great mistake to have one's incision too small. I then carefully pack off the intestines as far as I can with rolls of sterilised gauze. I then surround the wound completely with gauze and place a Doyen's retractor at the lower part and self-retaining lateral retractors at the upper part. My whole field of operation then and the abdominal wound are completely protected with gauze. I then carefully examine the condition of the uterus and tubes, and the relationship of the intestinal adhesions to these parts. Having done so, I seize the uterus with a volsellum forceps, so as to steady that organ. I next make up my mind which tube can be most easily dealt with, for in most of the cases I have found it best to go down the easy side and cut across the cervix, and approach the larger pus sac from below. In a few cases I have found it possible to separate each side and clamp off the broad ligament and remove the uterus, just as one does in an ordinary hysterectomy for fibroids, but that has been the exception. I have only twice bisected the uterus, and I am always loth to do this, because it also is infected. Where there are extensive adhesions—and in almost all my cases these have been present—I sponge off the intestine with gauze. Usually the intestines come off easily from the posterior wall of the uterus, but very frequently, indeed, the tubes are extremely intimately blended with the bowel.

The separation of the bowel from the pyosalpinx is often a matter of great difficulty. As I have already indicated, however, one side is usually easy of approach. Once or twice I have pushed down the bladder and cut across the cervix before attempting to separate the tubes. By that means, and by dividing the upper margin of the broad ligament, one is able to approach the sac from all sides, and that is a great advantage. It is very comparable to the homely operation of separating a postage stamp from an envelope without tearing the stamp. One can often do this if one can get round the edges of the stamp, while if one attacks it from below or above it tears across.

In dealing with pyosalpinx in this manner great care must be taken, after dividing the cervix and working up from below, that the ureter is not injured. I have once or twice had to dissect off the ureter from the sac, but undoubtedly the greatest difficulty is with the intestines, and several times I have injured them, sometimes so badly that I had to resect the gut. If one can satisfy oneself that there is only one loop of the bowel involved in the adhesions it is almost better, if the adhesions are extremely intimate, to clamp off the loop of bowel and remove the adherent piece of bowel along with the uterus, tubes, and ovaries. That, however, is often not possible, and so one must generally plod on with patience and separate off the bowel as carefully as possible, attacking it from all sides—sometimes from below, sometimes from the side, and sometimes from above. After the uterus and tubes have been removed the bowel involved in the adhesions should be carefully examined, and if there is any tear in the lumen of the gut that should be repaired in the ordinary way.

Here is a recent grave case of pyosalpinx upon which I operated:—

A married woman, aged 28 years, was admitted to my ward in the Western Infirmary on Jan. 19th on account of severe hæmorrhage and abdominal pain. These symptoms had been present for five months; prior to that time her menstruation was fairly regular, although she had suffered from premenstrual pain for many years. She had no family. Shortly after her marriage she had a severe cystitis. Upon bimanual examination the enlarged uterus was found retroverted and adherent to two elastic swellings which could be defined behind and to the sides of the uterus. The condition was diagnosed as double pyosalpinx. On Jan. 31st I opened the abdomen and found omentum, bowel, tubes, ovaries, and uterus all matted together in the lower part of the abdomen and pelvis. Having tied off a piece of omentum and separated some of the bowel adherent to the uterus and left appendages, I was able to get down the left side of the uterus and tie off its attachments. I then cut across the cervix and working up from below and from above separated the right appendages without bursting the pyosalpinx. Having tied off the uterus

and ovarian vessels I removed the uterus and both tubes. I then found that the appendix was involved in the inflammatory process and so removed it. I now examined very carefully the separated bowel, which I found to be intact. Finding, however, that the whole of the cæcum was very much damaged indeed I was afraid to leave it, and so I divided the small intestine just outside the ileo-cæcal valve and closed both ends of the gut by purse-string and Lembert sutures. I then performed a lateral anastomosis between the ileum and the middle of the ascending colon. I then divided the colon, closed the upper end, and removed the cæcum. I finally inserted a cigarette drain, bringing the end out through the vagina. I also packed the lower abdominal and pelvic cavity with iodoform gauze.

The patient was naturally extremely collapsed after the operation, which lasted two and a quarter hours. She soon rallied, however, with continuous saline rectal infusion. About ten days after the operation fæces began to come by the vagina in considerable amount, but I felt sure this was simply from a fistula in the rectum along the track of my rubber drain. This proved to be correct as there are now practically no fæces coming by the vagina, and the bowels are moving satisfactorily with the aid of mild purgatives.

Now I feel that if I had chanced it in this case and left the badly damaged loop of bowel the result would almost certainly have been unsatisfactory. It is of the greatest importance that the injured bowel should be dealt with in a thoroughly surgical manner. It is folly to leave a very much damaged loop of bowel.

But besides removing the uterus, ovaries, and tubes, the appendix should also be dealt with. In the cases that I have had I have found the appendix involved on many occasions, and I have removed the appendix many times. This part of the operation is usually not very difficult, as in most of the cases the appendix is only secondarily involved and can be separated from the adhesions. I need not, of course, say that occasionally the removal of the appendix is a matter of extreme difficulty.

Having removed the inflamed mass of uterus and tubes and the appendix, and having repaired or resected the bowel if it is very extensively damaged, the abdomen is closed. Upon a few occasions I have drained through the vagina, and always by means of a rubber tube surrounded by gauze. I would not, however, be dogmatic on this point; I have sometimes been a little doubtful about the advantage of draining in such cases. All the vessels are tied with catgut; the abdominal wound is stitched in layers with catgut and silkworm gut.

Naturally the operation is one of considerable length. In the last case I referred to, where, in addition to removing the uterus and pus tubes, I removed the appendix and resected the bowel, the operation lasted two and a quarter hours. In such cases the patients, as a rule, suffer from considerable shock, but the degree of shock depends not altogether upon the duration of the operation, but is influenced very largely indeed by the manner in which the anæsthetic is administered. The ideal anæsthetist, who keeps his patient "under" with a minimum of ether or chloroform, is an absolutely invaluable assistant to the surgeon. Putting aside the surgeon's skill and dexterity and the ideal anæsthetist referred to, the next most valuable aid to the recovery of the patient in these extensive operations is a nurse who can superintend the administration of the continuous saline infusion. I am convinced of the great benefit of continuous saline rectal infusion after these difficult and prolonged operations. If all these precautions are carried out—if the uterus and tubes are removed without spilling any pus, if the injured gut is carefully resected when it has been seriously damaged, if the anæsthesia has been ideal, and if continuous saline infusion is employed—the mortality from these most difficult operations should be very low indeed.

I am very glad to be able to report that neither I nor my assistant, Dr. D. Dickie, have lost any case treated as I have described during the last two and a half years. I am well aware that a few gynæcological surgeons in this country—for example, Wilson of Birmingham—and some in other countries, have advocated a similar line of treatment. This paper is brought forward in support of the treatment, and I trust it will become more commonly practised—this radical operation for grave forms of pyosalpinx.

Glasgow.

THE ASSOCIATION OF DUODENAL ULCER WITH APPENDICULAR DISEASE.

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SINCE Dr. W. J. Mayo called my attention to the frequency with which chronic appendicular disease is associated with gastric symptoms I have been struck with the frequency with which appendicular disease coexists with duodenal ulcer. I have found, in going over my notes for the last three years, that obvious appendicular disease was also present in 66 per cent. of the cases in which I have at operation found duodenal ulcer. In none of these cases was there any clinical reason to suppose the existence of disease of the appendix.

This association seems to me to be too frequent to be regarded as a mere coincidence and suggests that appendicitis may be one of the causes of duodenal ulcer. Why appendicular disease causes duodenal ulcer may not be easy to explain. There is a certain amount of evidence that gastric ulcers are toxic in origin, and I think it is quite possible that duodenal ulcer is the result of toxic absorption from the appendix or even from the large intestine.

It is now definitely established that appendicular disease does produce definite gastric symptoms, a condition for which I have suggested the term "appendicular gastralgia." Examination of the gastric mucosa in these cases often shows an extreme degree of erosion. It is possible that this condition is the prelude to definite ulceration of the stomach or duodenum. The sequence of events is this—appendicular disease; secondarily, erosion of the gastric mucosa; then superficial ulceration (the so-called "medical ulcer"); and later, a recognisable indurated ulcer.

I have had a patient under my care during the past year, the clinical details of whose case are very suggestive.

The patient was a lady, 42 years of age, sent to me by Dr. Stanley L. Box. Sixteen years before I saw her she had peritonitis, and was ill for months. A year later she had "ulceration of the bowels." Two years after that she began to suffer from gastritis, and a few years later she had hæmatemesis. In January, 1909, she was taken ill, suddenly, with violent vomiting, hæmatemesis, and melæna. Notwithstanding careful dietary and rest in bed, she did not lose her symptoms. She was seen by Dr. Soltau Fenwick, in consultation with Dr. Box, and a diagnosis of appendix trouble was made. I opened the abdomen, carefully explored the stomach and duodenum, and could find no evidence of gastric or duodenal ulcer. She had an enormously large appendix, measuring 3½ inches in circumference, and containing three large foul-smelling concretions. After the removal of the appendix (October, 1909) she was better, but still suffered from acidity. For some months she remained fairly well, and then—in May, 1910—became suddenly worse, and brought up about a pint of bright blood. In July she had several attacks of hæmatemesis and melæna, two of them severe. The pain and the hæmorrhage pointed so strongly to duodenal ulcer that in September, 1910, I again opened the abdomen, and on this occasion found a duodenal ulcer adherent to the liver. A posterior gastro-jejunostomy was performed, and the patient has been completely relieved of all her symptoms.

I have little doubt that in this case a superficial ulcer, which could not be felt, existed at the time of the first operation. The ulcer persisted, and in due time became thickened, so that at the second operation it was palpable as well as recognisable by sight.

Most of the patients suffering from appendicular gastralgia are cured by appendicectomy, but in from 10 to 12 per cent. of the cases, operation is not followed by complete relief. It is possible that the above case affords the explanation. An ulcer may already exist, although it cannot be felt by an external examination of the duodenum. This possibility raises the question whether in these cases a gastro-jejunostomy should be performed as well as appendicectomy. Personally, I am of the opinion that a gastro-jejunostomy should not be performed, unless there exists a definite ulcer which can be seen and felt. I quite admit that it is disappointing, both for the patient and for the surgeon,

if appendicectomy fails to relieve the gastric symptoms and further surgical treatment is necessitated; nevertheless, a 10 per cent. chance of a second operation being necessary does not justify an unnecessary operation in 90 per cent. of the cases.

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THE TREATMENT OF DISSEMINATED SCLEROSIS: A SUGGESTION.

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THE morbid anatomy of disseminated sclerosis is different from that of any other disease of the nervous system in the actual nature of the lesions by which it is characterised. Not only are the lesions patchy in their distribution, but each lesion presents, as its special feature, a destruction or alteration of the myelin within a well-defined area of the brain or spinal cord. This demyelinisation is often, if not always, followed by some neuroglial sclerosis, less frequently by changes in the axis cylinders which pass through the affected area.

From a clinical point of view the nature of the disease has always been obscure, but during recent years the theory that some toxic agent is responsible has steadily gained ground. From the clinical point of view disseminated sclerosis displays a strong resemblance to only one other disease of the central nervous system—i.e., cerebro-spinal syphilis. This resemblance is chiefly dependent upon the fact that both maladies are distinguished by paroxysmal attacks upon the cerebro-spinal axis occurring at intervals which may vary, according to circumstances and probably in accordance with general states of health, from a few weeks to many years. Recovery from one attack, even if some residual loss of function is the rule, is always possible, perhaps probable; but the liability to recurrence, unless preventive steps are taken in the case of the syphilitic disease, is generally recognised by all medical men.

Recent advances in our knowledge of syphilis tend to show that, having once gained access to the body, the treponema pallidum can be, as it were, stored away for indefinite periods, and yet can maintain the power of attacking one part or another of its host when a suitable occasion presents itself. For the moment it is of little importance to discuss the locality of its hiding-place. Adequate anti-syphilitic treatment will, in the majority of cases, suffice to prevent the occurrence of these tertiary outbreaks.

All attempts to discover a bacterial agent responsible for disseminated sclerosis have failed, just as failure dogged the footsteps of those who for many years sought the syphilitic germ by ordinary bacteriological methods.

The resemblance between cerebro-spinal syphilis and disseminated sclerosis has led me, during the last year or two, to suspect that the latter disease may be caused by some organism belonging to the same class as that of the treponema. The fact that this class of organism is best combated by mercury or arsenic induced me to commence the tedious experiment of treating a few selected cases of disseminated sclerosis by repeated courses, or nearly continuous administration, of arsenic, on the same principle as that which makes the repeated administration of mercury the only effective method of preventing attacks of cerebro-spinal syphilis in syphilised persons. The experiment is tedious, because in the natural history of disseminated sclerosis remissions are frequent and often prolonged, so that observations on many cases over many years would be necessary to establish the value or uselessness of this measure. So far as my experiment has gone there is nothing to show that it is useless, but I should be very sorry to claim any success on the material at present available.

The advent of Ehrlich's "606" preparation to some extent alters the situation. If the use of this preparation is to prove a method of permanently eradicating syphilis after infection, and if there is any basis of truth in the theory I have put forward concerning the pathogenesis of disseminated sclerosis, it might well be that what is efficient in the one case might prove equally so in the other. The difficulty of inducing patients to persevere with the continuous administration of a drug and the difficulty of knowing how far one's orders have been conscientiously obeyed would be overcome by substituting one or two "intensive" injections for years of medicine-taking. The fact that much time must elapse before the method of treatment can be thoroughly tested induces me to publish this suggestion now in the hope that others besides myself may see their way to try Ehrlich's preparation in suitable cases of disseminated sclerosis as soon as the experimental stage in its employment has been completed.

It is justifiable, even on the slender grounds I have offered, to try a therapeutic measure which may possibly be of service in influencing a disease so intractable as disseminated sclerosis, and it is interesting to note that nearly all observers are agreed in regarding arsenic as one of the most useful drugs in the palliative treatment of that disease. So far as I am aware, the use of arsenic in the manner I have described and for the reasons which I have ventured to advance has not yet been advocated, and I should certainly have hesitated in doing so now had not the remarkable results of Ehrlich's discovery in the treatment of syphilis made the means of putting my theory to a practical test so much more simple.

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TORSION OF THE LEFT BROAD LIGAMENT AND FALLOPIAN TUBE IN A CHILD.

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ON Feb. 20th, 1910, a girl, aged 11 years, was admitted to St. Thomas's Hospital with the following history. Six days previously, while returning home from school, she was suddenly seized with acute abdominal pain associated with vomiting. She was so ill that she was carried to the nearest house, whence she was sent home later. She had been in bed since, suffering from severe abdominal pain, which was at first paroxysmal, but subsequently continuous. The pain was confined to the lower abdomen, and was worse on the left side than on the right. There was a little vomiting on the second day of her illness, but none afterwards. Both micturition and defæcation were painful. The bowels had acted twice on the day of admission and once on the previous day; no blood was passed either per rectum or per vaginam.

Further inquiry elicited the information that some three or four months previously the child had suffered from somewhat similar symptoms; on this occasion also the pain was situated in the left lower quadrant of the abdomen, and it was sufficiently severe to make her roll about in bed and scream. The onset was sudden and associated with collapse and vomiting. This first attack, however, lasted only one day, and between the two attacks she had been perfectly well and free from any abdominal pain.

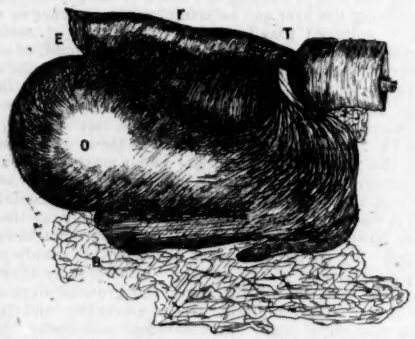
State on admission.—The child looked ill; the expression was anxious, and the eyes were sunken. The temperature was 100·6° F., the pulse 120, and respirations 30 per minute. The tongue was moist and but slightly furred. There was no abdominal distension nor retraction, but the respiratory movements were confined to the epigastrium, the lower half of the abdominal wall being quite motionless. No peristalsis was seen. The percussion note was everywhere resonant, and the liver dulness was normal. Palpation revealed great tenderness all over the lower half of the abdomen; this tenderness was most intense in the hypogastric and left iliac regions, where also there was definite cutaneous hyperæsthesia. The lower segments of both recti were rigid, but elsewhere the abdominal wall was flaccid. Per rectum a tender, œdematous mass was felt in Douglas's pouch, a little to the left of the middle line. The urine was normal and there was no evidence of any intra-thoracic disease.

The history and state were considered to be suggestive of a leaking pelvic abscess, probably appendicular in origin;

the very acute and apparently colicky nature of both the present and the previous illness were commented on as being an unusual feature, but one to which no great importance was to be attached, in the entire absence of any other symptoms or signs of intestinal obstruction.

Shortly after admission the abdomen was opened by one of us, under chloroform-oxygen anæsthesia, through the lower segment of the right rectus muscle, one inch from the middle line. On incising the peritoneum no free fluid or peritonitis was found, and the intestines appeared to be normal. There were some old adhesions round the tip of the appendix, but no recent inflammation. On further investigation some blood-stained fluid was found in the pelvic cavity, which was next explored. The uterus and the right Fallopian tube and ovary were normal in appearance; in the pouch of Douglas, however, a large, chocolate-coloured mass was found, which proved to be the strangulated left ovary, with the corresponding broad ligament and Fallopian tube twisted several times. The patient having been placed in the Trendelenburg position, the incision was prolonged downwards and the intestines were packed off by abdominal pads. The attachment of the broad ligament to the pelvic wall was divided, and the whole mass was with some difficulty extracted from Douglas's pouch and brought into the wound. The broad ligament was clamped close to the uterus and ligatured with silk in three portions, and the Fallopian tube and ovary were removed. After the divided edges of the broad ligament had been united by silk sutures, the pelvis was dry-sponged and a considerable amount of blood clot was taken out. The abdominal incision was sutured in layers, silk being used for the peritoneum and rectus sheath, and salmon gut for the skin. Convalescence was uneventful; the wound healed by first intention, stitches were removed on the seventh day, the child got up on the twelfth day, and was discharged on the sixteenth day.

On examination of the parts removed it was found that



Sketch of specimen showing torsion of left broad ligament and Fallopian tube. E, Fimbriated end of tube. F, Fallopian tube. T, Seat of torsion. O, Ovary. B, Blood-clot adherent to Douglas's pouch.

the broad ligament and Fallopian tube had undergone several complete twists in a clockwise direction close to their uterine attachment. The tube and ovary were black, and the broad ligament was infiltrated with blood clot. A large piece of friable blood clot was attached to that portion of the mass which had been adherent to the pelvic wall. The ovary was four inches long, an inch and a half wide (from above down), and an inch thick (from behind forwards). A microscopical examination, kindly made for us by Dr. Leonard S. Dudgeon, showed only extreme vascular engorgement of the ovary. There was no evidence of disease of the ovary, apart from the results of strangulation.

We have ventured to put this case on record on account of the extreme rarity of the condition found. Torsion of the pedicle of ovarian tumours in children is, of course, not uncommon; in fact, the ovarian tumours of childhood appear to be very liable to this accident. Damianos[1] refers to 14 cases of torsion of the uterine adnexa in inguinal herniæ of young children; and Morrel[2] reports a case of torsion of the left Fallopian tube in a woman, aged 32 years, without any concomitant strangulation of the ovary. Haultain[3] has published a case of apparently chronic torsion of the Fallopian tube and broad ligament, with infarction of the ovary; the operation was performed on account of metrorrhagia of 18 months' duration, and there were no acute symptoms. We have been unable to find in the literature any instance of acute strangulation of a healthy and normally situated tube and ovary.

We are much indebted to Dr. T. D. Acland and Mr. H. Betham Robinson for permission to publish this case, and to Mr. W. Victor Corbett for his sketch of the parts removed, which is reproduced here.

[1] Deutsche Zeitschrift für Chirurgie, 1905, Band lxxx.
[2] Bulletins et Mémoires de la Société d'Anatomie de Paris, 1903.

MASSIVE INFARCTION OF THE RENAL CORTEX.

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FROM the rarity of this condition the following case seems to be worthy of record.

A woman, aged 29 years, was admitted to St. George's Hospital on August 21st, 1910, under Dr. Arthur Latham's care with the history that seven days previously she had had a miscarriage at the fourth month, followed immediately by complete suppression of urine and two days later by obstinate vomiting which persisted throughout the illness. The patient had always been healthy, except that her first confinement was followed by puerperal septicæmia. Her subsequent children were born prematurely at six and seven months respectively.

On admission the patient was found to be a stout woman; her face was flushed, and her expression bright and eager. The pupils reacted well, were equal, and moderately dilated, and the tongue was moist and clean. She was mentally alert and intelligent, had no headache, and indeed said that she felt quite well except for the discomfort caused by vomiting. There were no twitchings or convulsions; the reflexes were natural and the fundi did not show any change. The temperature was 99° F., the pulse 112 (not high tension), and the respirations were 28. Examination of the thorax and abdomen did not reveal anything abnormal, while an X ray photograph was negative. A catheter was passed and 1 cubic centimetre of urine containing pus and red blood cells was withdrawn. The vomiting persisted, and 24 hours after admission the patient died somewhat suddenly after complaining that she felt sick and faint.

At the necropsy, made 23 hours after death, the following notes were made:—"The body is that of a well-nourished woman inclined to obesity. There is a very slight degree of œdema of the ankles. *Thorax.*—No ascites. The abdominal and pelvic viscera are healthy, with the following exceptions: *Kidneys.*—8 ounces each; the capsules str readily, exposing a smooth mottled red and yellow surface. On section the entire cortex is pale buff in colour, and is surrounded by a bright red line of hyperæmic reaction; the pyramids are dusky red and stand out distinctly in contrast to the pallid cortex. The condition appears to be massive infarction of the entire renal cortex. *Bladder.*—Contracted and empty save for 1 cubic centimetre of muco-pus; no cystitis. *Uterus.*—Measures 5 inches by 4 inches by 4½ inches and contains several ounces of decomposing blood-clot. *Vessels.*—The ovarian and renal veins are thrombosed throughout (the right renal and ovarian veins open simultaneously into the inferior vena cava). The clot, which does not appear septic, is partly canalised in places, and has extended as a tapering prolongation for about three inches down the inferior vena cava, but has not obstructed the lumen of that vessel. The renal arteries do not show any atheroma or endarteritis. Microscopically, the kidneys show general infarction of the cortex. There is hæmorrhage into the tubules and glomeruli, but no evidence of endarteritis; the veins, however, appear thrombosed."

The history of this case and the naked-eye appearance of the kidneys are practically identical with those described by

[3] Journal of Obstetrics and Gynæcology, vol. viii., p. 25.

Bradford and Lawrence,[1] but in their case the condition was ascribed to a definite and selective endarteritis obliterans of the renal arteries. Herringham and Griffith[2] describe a case that is clinically similar but in which, while there was no endarteritis obliterans, there was a definite increase of interstitial tissue throughout the kidneys. Parkes Weber,[3] in describing what appears to be a somewhat different type of case, regards the fault as being a primary defect in the tubal epithelium. In the cases quoted by Herringham and by Bradford, as well as in the present one, the anuria dated from childbirth or miscarriage, but so far as I have been able to ascertain, this is the first case in which the lesion has been shown to be directly attributable to thrombosis of the renal veins, though it has been demonstrated by physiological experiment that obstruction to the renal vein will produce a condition of typical infarction.[4]

I am indebted to Dr. Latham for permission to publish this case.

Upper Berkeley-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Cancer of the Rectum.

A MEETING of this section was held on Jan. 10th, Mr. RICKMAN J. GODLEE, the President, being in the chair.

Dr. F. WOOD JONES, speaking on the anatomy of the rectum, pointed out the advisability of recognising Houston's first fold as a really useful indication to mark out the limits of the rectum.

Mr. F. SWINFORD EDWARDS said he would briefly state his own views on the present position of the operative measures necessary for the removal of a rectal cancer and his experience of the various methods he had employed. His chief object was to enter a protest against the performance of an unnecessarily severe operation, with a heavy mortality, for cases of cancer attended with but little risk to life, and which, moreover, entailed no crippling of the patient. All forms of treatment other than operative, whether by radium, X rays, high-frequency currents, trypsin and other digestive ferments, had, and he thought it was generally admitted, proved unavailing. Nowadays the position of the growth—namely, its distance from the anus—was no bar to extirpation. The only real bar to a successful operation was the fact that the growth was no longer confined to the bowel but had become adherent to neighbouring parts, whilst the lymphatics were infected. Another condition which quite barred any attempt at removal was metastasis in the liver, often not discovered until the abdomen had been opened, either for exploration of the growth or for the purpose of forming an artificial anus. In considering the best method to employ for removing the disease due regard must be paid to the immediate mortality of any given operation, the risk of recurrence, and the amount of crippling, if any, likely to follow the operation. Mr. Ernest Miles had advocated a very extensive proceeding, which he called the radical abdomino-perineal operation, for all malignant growths of the rectum and pelvic colon no matter how small they might be or where placed. That operation consisted in the formation of an iliac anus with the entire removal of the rest of the sigmoid colon, the rectum with the soft parts adjacent thereto, and the anus. He stated that his reason for advocating that extensive operation in all cases of rectal cancer was the great frequency of recurrence which followed his perineal operations, under which heading he included parasacral excision with end-to-end anastomosis. Out of 58 operations there were 54 recurrences. Mr. Edwards sympathised with Mr. Miles in the unfortunate results attending his perineal and sacral excisions, nor could he offer any explanation to account for them, unless it were that many of those cases were unfavourable for any operation, the disease having probably passed beyond the limits of the bowel at the time of the operation and had better have been left alone. Mr. Edwards had always held the opinion that all growths fixed anteriorly or laterally, even when involving only a part of the bowel circumference, were best left alone. If the meso-rectal glands and lymphatics were markedly enlarged and remained so, either after a preliminary colotomy or after rest in bed with frequent rectal douching, recurrence after operation was not improbable. It must be admitted that enlarged glands were often only inflammatory and not malignant. He had several times met with those glands when carrying out a parasacral excision and had been much disappointed on finding that he was unable to remove the entire chain. Some of those cases were alive and well to-day, having passed the three years' limit, a proof, he thought, that those glands were not cancerous. For some 10 or 12 years he had abandoned the old perineal operation excepting for cases of epithelioma of the anus, and in the majority of cases had performed the extirpation by the sacral or coccygeal route. He had not concerned himself with the preservation of a bone flap, as patients appeared to suffer no inconvenience from the loss of the coccyx and lower part of the sacrum. If the growth was extensive, involving the removal of, say, four inches or more of bowel, or if it extended so low down that end-to-end union was problematical, he advised a preliminary colotomy. If the anus had been preserved and the continuity of the bowel re-established, the artificial anus could be closed subsequently; but bearing in mind the chance of recurrence that might well be postponed for a year. When performing the colotomy the hand should be passed into the abdomen for the purpose not only of defining the limits of the growth, but also of exploring the liver and ascertaining the presence or otherwise of enlarged glands and lymphatics or of secondary growths elsewhere. The existence of these would, of course, negative any attempt at excision. Extirpation by the sacro-coccygeal route he had carried out 81 times with 4 deaths, or an immediate mortality of 5 per cent. There was recurrence in 22 cases. Hospital cases, lost sight of, numbered 14. Forty-one cases were well as far as was known; of those, one was still in a surgical home making a rapid convalescence. He thought that a preliminary colotomy seemed to offer some bar to recurrence. When recurrence did take place it was with one exception *in situ*—namely, at the level of the bowel section. Partial excisions were not to be condemned. By partial he meant the removal of only part of the circumference of the rectum. Theoretically they were unsurgical, and in all the cases the growths were small, none larger than a florin, freely moveable, and limited to the post-rectal wall. Microscopical examination proved them all to be malignant adenomata. In one case, operated upon four years ago, he removed in addition four enlarged glands, in two of which metastatic deposits were found. That lady was now in perfect (rectal) health and by a digital examination it was almost impossible to say that she had undergone any operation. Most of the cases of recurrence had been either in young subjects or in cases where the section of the bowel was perilously near the disease—namely, the specimen when removed did not show an inch of healthy mucous membrane above and below the growth. In conclusion he expressed the opinion that rectal cancer in persons of 45 and over was not prone to recur if removed sufficiently freely, but in the young it was very malignant and was likely to recur unless removed at a very early stage. Cases of cancer of the sigmoid colon were very favourable ones for operation by the abdominal route, with end-to-end union, unless obstruction was present, when a temporary colotomy should be the rule. Subsequent excision with intestinal anastomosis could then be carried out. In those cases he had had excellent results. For growths involving the upper rectum and pelvic colon an abdomino-perineal operation was necessary. Miles's amplification of it also had its field of usefulness for cases in which the disease had passed beyond the walls of the bowel and which otherwise should be considered inoperable. The radical abdomino-perineal operation entails an artificial anus, which, when necessary, was no great evil. Indeed, it

[1] Bradford and Lawrence: Endarteritis of the Renal Arteries, causing Necrosis of the Entire Cortex of Both Kidneys, Journal of Pathology and Bacteriology, 1898, vol. v., p. 195.

[2] Herringham and Griffith: Necrosis of Entire Renal Cortex of Both Kidneys, Brit. Med. Jour., 1905, vol. ii., p. 1043.

[3] Parkes Weber: Anuria with Necrosis of Renal Convoluted Tubules, THE LANCET, 1909, vol. i., p. 601.

[4] Adami and Nicholls: The Principles of Pathology: Systemic Pathology, Feb. 27th, 1909, p. 42.

might be a positive advantage in preventing a tendency to recurrence. When the artificial anus was intended to be permanent he preferred hypogastric colostomy through the left rectus muscle to an iliac one, as he found it conferred a much larger measure of control. But where a subsequent abdominal section was purposed for an excision the iliac site was the better, for being placed farther out the abdominal wound was not so likely to be infected. To his mind the ideal operation for cancer of the rectum when situated between the fourth sacral vertebra above and a point 2 inches above the anus below was Bardenheuer's modification of Kraske's operation with end-to-end suture. It was true that a dorsal fistula would persist for a time, but that usually healed in from two to three months if the stricture at the line of union was kept dilated. He had always found contraction take place at that point with a very marked anterior spur. That in time practically disappeared if treated by dilatation, for which purpose he found nothing to equal Hegar's double curved metal dilators. In the face of his own results he could not agree with those surgeons who advocated a combined operation for all cases of rectal carcinoma, any more than he agreed with those who for a small and limited cancer of the breast would remove all but the ribs, and thus cripple the patient for life.

Mr. W. HARRISON CRIPPS said he agreed with what Mr. Swinford Edwards had said. It was almost exactly the same as what he had been saying for years. To consider the route by which cancer of the rectum should be removed was a secondary question; the most important point was, could the cancer be removed with advantage to the patient? The class of case that he considered suitable for removal of the cancer was one in which the growth was still confined to the rectum and had not extended beyond; to discover if the growth was confined in that manner it was necessary to find out by feeling whether it was fixed or not; if not fixed, then the disease could be removed with advantage to the patient. Mr. Harrison Cripps said it took him some time to learn when a growth was removeable or not. The chief consideration was whether the growth had gone through the walls of the rectum and extended to the neighbouring tissue. If that were the case his experience was that operation would not secure a permanently successful result. Mr. Harrison Cripps emphasised the importance when examining of making the examination of a rectal cancer under an anæsthetic. As regards recurrence, in most of his cases the cancer when it recurred was found in the tissue surrounding the part from which the growth had been removed. Concerning the method of operation he thought it was impossible to lay down precise rules. Turning to the question of the value of the operation, his view was that if there was any doubt as to whether a growth should be removed or not the benefit of the doubt should be given for the removal of the tumour. He believed a very large number of these cases of cancer of the rectum were curable if operated upon early, and appealed to practitioners to spend more time in studying the symptoms of the disease.

Sir FREDERICK S. EVE said that judged by the best clinical observation and by the percentage of permanent cure there was no doubt in his mind that Kraske's operation or the perineal type had not been sufficiently thorough. In regard to cure every surgeon was aware that a three years' limit was far too small. There were plenty of cases of cancer in which recurrence occurred after ten years. He had seen a melanotic cancer recur after 20 years. It was true that cancer, if it recurred did so soon, but there were many cases in which it recurred late, and he had seen two cases in which recurrence took place after five years' freedom from the disease. It was clear that Kraske's or the perineal method of operation could not be trusted to obtain a permanent cure, and he had come to the conclusion that the operation which filled the most important position, namely, a permanent cure, or the probability of it, at a low mortality risk, was the abdomino-perineal operation combined with a permanent colostomy. Although he advocated the abdomino-perineal operation and colostomy for the greater number of cases of carcinoma of the rectum, he recognised that the disease, if it only affected the anal canal, could be attacked from the perineum.

Mr. H. F. WATERHOUSE emphasized the importance of preliminary preparation. When intestinal obstruction the result of cancer of the rectum was present an inguinal colotomy must be immediately performed, and all attempts at radical cure abandoned for some days. Failure to recognise the importance of that rule had to his knowledge proved disastrous. Even in cases in which no obstruction had occurred and in which daily or more frequent evacuations of the bowel took place it was, in his opinion, essential to attempt to diminish as far as possible the septicity of the bowel. He was accustomed to administer castor oil on the sixth and fifth days preceding the operation. During the four days prior to operation the patient was given beta naphthol and salol, gr. v. of each in a cachet four times daily, and his food was restricted to milk and meat extracts. Eight hours prior to the operation half a grain of opium was given in pill form, and half an hour prior to the administration of the anæsthetic a hypodermic injection of ⅓rd grain of morphine hydrochlorate and 1-80th grain of atropine sulphate was administered. The rectum was washed out twice daily for two days, and again on the operating table with a 1 in 2000 solution of permanganate of potassium. The bowels after that rarely acted until the third, fourth, or fifth day, and a considerable number of incisions (parasacral) healed completely, or more commonly largely by primary union. He was a strong adherent of the parasacral method for which they were indebted to Kraske and Kocher. In his opinion it was the method of choice in almost every case of cancer of the rectum in which radical treatment was justifiable. He was in the habit of making use of that method in practically all the cases that came under his care. He had no doubt but that division of the sacrum markedly increased the shock of the operation and that the existence of a bone wound in a cavity likely to become septic was a very real danger. Even in cases of anal cancer he had long abandoned perineal excision. In such cases admirable access was obtained by the parasacral incision. Operating thus from above downwards was a far less sanguinary procedure than the method of perineal excision, for the reason that the blood-vessels could easily be clamped before division. If the anus were sutured or plugged with gauze at the commencement of the operation the diseased part could readily be pushed downwards outside the anal orifice, and, being there retained by an assistant, the parasacral incision was sutured before the protrusion was amputated. In that way union of the parasacral wound by first intention might almost always be obtained, as no fouling of the wound, hands, or instruments should take place. He was fully aware, however, that the great question they were called upon to discuss, and if possible to settle, was what was the best method of procedure in cases of cancer involving the first and second segments of the rectum of their student days or what should now be called the lower end of the pelvic colon and the rectum proper. Was the operation of the future to be a combined abdomino-perineal or abdomino-anal or some modification of the parasacral method of Kraske and Kocher? His vote was decidedly for the latter. He admitted that the combined abdominal methods appeared at first sight very attractive. They seemed in accord with the modern doctrine of freely removing all possibly infected glands, and he gave the method a fair trial, but he had, however, for all cases which could properly be called rectal cancers practically abandoned it. Among the reasons for his decision the chief was the difference in the mortality of the two methods. So far as he was able to judge the mortality of the combined abdominal method was not less than 30 per cent. and probably more. That of the parasacral method was, he believed, not more than 5 per cent. Adherents of the more serious operation must surely submit reasons more cogent than any he had hitherto heard before they could expect surgeons to abandon the far safer parasacral method. The reasons for the greater mortality of the former method were not far to seek. It was a question of two extensive incisions instead of one, of an operation of much longer duration—a matter of great moment in patients exhausted by pain and sleeplessness, not to mention septic absorption from the cancerous growth. The secret of success was free division of the peritoneal attachments of the bowel and free division of all bands connecting the posterior surface of the rectum with the sacrum. The amount of mobility of the bowel after free division of the peritoneal reflection was a revelation to those who practised that manœuvre for the first time. End-to-end union of the bowel segments had afforded him satisfactory results in many cases, though he was bound to confess that in the majority of instances leakage

had occurred on the posterior aspect of the line of union. As to the various combined abdominal methods, he stated that the more he saw of them the less he liked them. They were, in his opinion, far too severe, certainly for the ordinary run of cases of operable rectal cancer. They were double operations and entailed a severe strain upon debilitated patients. In not a few cases in which he had commenced the operation *viâ* the abdominal route and found a cancer at or just above the pelvic brim he had deemed it safer to perform a colotomy by bringing the upper end of the bowel out through the abdominal incision and closing, after excision of the cancer, the lower segment, without making any attempt to perform an end-to-end anastomosis or to bring the upper segment down to the anal margin. He was convinced that that was a far safer operation than any of the combined methods, and that the disadvantages of an inguinal anus were much exaggerated. He referred to the advantage of the removal of the infected glands which lay along the iliac vessels. In his opinion, when the disease had spread to those glands the prospects of radical cure were practically *nil*. He thought the glands that in all cases called for removal were those between the rectum and the anterior surface of the sacrum, and there could be no question that those could be far more radically removed by the parasacral incision than by the abdominal method.

MEDICAL SOCIETY OF LONDON.

Some Ocular and Visual Conditions in Medical Cases.

A MEETING of this society was held on Monday, Jan. 9th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Dr. JAMES TAYLOR, in the course of a paper on Some Ocular and Visual Conditions in Medical Cases, considered the subject in five sections: (1) Conditions of the pupil; (2) conditions of ophthalmoplegia externa; (3) changes in the optic nerve; (4) retinal changes; and (5) hemianopia. In the pupil conditions inequality was not necessarily of grave significance. The Argyll Robertson pupil he referred to in its association with syphilis; it was said also to occur with lesions in the vicinity of the third ventricle. Dr. Taylor also mentioned its association with definite signs of tabes dorsalis, general paralysis of the insane, with paraplegic or hemiplegic symptoms, the results of syphilitic disease of vessels, and with wasting about the shoulder girdle, the result of syphilitic cervical pachymeningitis. It might also occur as an isolated phenomenon, and the case was mentioned of a man who had been under observation for 16 years with merely neurasthenic symptoms. He had recently developed deafness of both ears probably of syphilitic origin. In speaking of ophthalmoplegia externa isolated sixth nerve paralysis was alluded to, and the question was raised whether it ever resulted simply from neuritis due to exposure to cold. He pointed out that he had never met with it associated with seventh-nerve affection (Bell's paralysis). The sixth nerve frequently suffered from accident—probably because of its prolonged and exposed course—e.g., in fracture of the base. Third-nerve paralysis, isolated, was usually the result of syphilis, sometimes in tabes, sometimes as a precursor of general paralysis. Both those nerves might suffer in general brain conditions—e.g., tumour, meningitis, &c.—and from toxic conditions such as diphtheria. In myasthenia gravis ocular palsies were one of the chief and early signs and varied much in intensity from time to time. Third-nerve paralysis also occurred in the condition known as migraine ophthalmoplégique, probably as a result of an actual lesion of the nerve. He then referred to the occurrence of optic atrophy in tabes dorsalis, and demurred to the statement that it occurred in the pre-ataxic stage of tabes, because in some cases of tabetic optic atrophy no ataxy developed. It also occurred in general paralysis of the insane, not infrequently many years before the mental symptoms were present. The optic atrophy of disseminated sclerosis was also discussed. Optic atrophy also occurred in lesions at the chiasma, optic neuritis in such conditions being extremely rare. Optic neuritis occurred most commonly as a result of intracranial tumour. In spite of assertions to the contrary, it was frequently an early sign, and the impairment of vision which it caused might be the first thing to excite the attention of the patient. In four years at Moorfields Dr. Taylor had had referred to him no less than 20 patients with optic neuritis who went to Moorfields before seeking advice elsewhere. Optic neuritis also occurred occasionally in disseminated sclerosis. It also was said to occur in anæmia and as a result of other toxic conditions such as influenza. Neuro-retinitis occurred in glycosuria and albuminuria. The condition of retinal thrombosis and its symptoms were referred to and also the absence in many cases of any signs of associated visual disease. Occasionally cardiac hypertrophy was present. In the other cases a local arterio-sclerosis was probably the cause, and the long subsequent life of many who had suffered from retinal thrombosis would seem to indicate that it did not necessarily imply a serious general condition. Embolism of the central artery of the retina was also referred to and its occasional occurrence—namely, after diphtheria—without any recognisable sign of heart disease. Homonymous hemianopia, although usually occurring with hemiplegia, permanent or temporary, slight or severe, might be an isolated phenomenon, the result of vascular blocking, frequently the result of syphilitic endarteritis. Bitemporal hemianopia was always the result of a lesion at the chiasma, occasionally associated with signs of acromegaly, frequently not.

Mr. PERCY FLEMMING read a paper on Some Cases of Medical Interest met with in Ophthalmic Work. He said that myopia in the great majority of cases was of course due to the axis of the eyeball being too long—axial myopia, and the onset of such myopia occurred in youth. A rarer cause of myopia was a change in the refractive index of the lens—index myopia. Such a change in the refractive index might be accompanied by fine changes in the lens visible with the ophthalmoscope, but in a minority of cases no such visible alteration in the lens accompanied the change in refraction. The onset of myopia in a patient over 40 was a striking event. Such patients said that whereas they could formerly see distant objects quite clearly, now everything a few yards away was blurred, and further, that whereas glasses were formerly needed for reading, now print could be read without their aid. An ophthalmoscopic examination usually showed fine lens opacities, but in a few of those cases the lenses were clear. In the latter group of cases examination of the urine would usually show the presence of sugar. Another point in connexion with diabetes to which he wished to refer was the occurrence of retro-ocular neuritis. The characteristic feature of retro-ocular neuritis was a loss of vision with little or no fundus change but with a definite central scotoma for red or white. Diabetes was recognised as a cause of retro-ocular neuritis, but a much more common one was tobacco, or tobacco in combination with alcohol. Although diabetes might produce typical retro-ocular neuritis apart altogether from tobacco, yet those cases were more often seen when the patient was a smoker, although the smoking might not be excessive. In such cases, if the tobacco be omitted improvement in vision usually occurred, but he had usually found the patients refuse to give up their smoking; they were fairly miserable from the diabetes, and they deliberately preferred the solace of their pipe to the prospect of improved vision. That being so, he should like to make the suggestion that those who had the care of diabetics in the early stages should warn them of the possible injurious effect of tobacco, and advise them to give up smoking. In patients over 45 one frequently met with a symptom which Mr. Flemming called morning ptosis. Such patients said that they had a difficulty in separating their lids in the morning, not because they were stuck together, but because they had no power to separate them, and they usually said that they had to push the lid up with their finger. No definite paralysis of any muscle was found, and although there might be a condition of ill-health or weakness present, yet the underlying cause in the majority of cases was the presence of uncorrected or insufficiently corrected presbyopia. The symptom might be taken as an indication of the need of glasses for near work, and with proper correction with spectacles the symptom would disappear. In the examples of that condition which had come before him the swelling had always been noticed first on waking. Another but quite different cause of difficulty in opening the eyes in the morning was the occurrence of angio-neurotic œdema. The swelling of the lids had always been noticed on waking, and had cleared up between 12 and 1 o'clock with what seemed to him rather extraordinary regularity. He had

nothing to say as to the cause of the condition, but some cases seemed to have been benefited by calcium lactate. Another and much more serious cause of transient œdema of the lids was the presence of a chronic frontal or ethmoidal sinus empyema. Cases of paralysis of the cervical sympathetic were fairly common, being due to various lesions in the neck and thorax, but the opposite condition, irritation of the sympathetic, which was often referred to in text-books as preceding paralytic phenomena, was in his experience very rare indeed. He had been on the look-out for such cases for years, and had only found one.

Mr. CHARLES HIGGENS pointed out the necessity for recognising the importance of the occurrence of double vision, and narrated two cases in which this was noticed in men over 60, one dying from a tumour of the brain and the other dying from cerebral softening. Mr. Higgens said that double vision was a symptom which did not have the significance attached to it that it should have amongst practitioners of medicine.

Mr. W. H. H. JESSOP pointed out that patients with ocular symptoms who did well under mercury need not necessarily be classed as syphilitics.

Dr. E. FARQUHAR BUZZARD narrated a case in which there was a condition of optic neuritis apparently due to the combination of alcohol and tobacco without any central scotoma.

Dr. WILFRED HARRIS pointed out how central scotoma may be the initial symptom of a pituitary tumour.

After Dr. THEODORE FISHER had spoken, Dr. C. O. HAWTHORNE commented on the fact that a retro-bulbar neuritis was now and then the first event in the development of disseminated sclerosis.

Dr. HERBERT FRENCH informed the meeting that a medical man in Queensland had put on record the fact that in a number of cases of children lead poisoning caused optic neuritis with paralysis of the sixth nerve.

Dr. H. A. DES VŒUX contended that unless ophthalmic surgeons examined the eyes of patients under atropine they would miss cases of headache due to conditions of the eye.

Mr. ERNEST CLARKE said that when cases of eye-strain were sent to the oculist of the old school for examination and report they might be returned to the practitioner with a statement that the headache was due to general conditions of the health. The only way to avoid that occurring was for the practitioner to insist on the report from the oculist being made after a cycloplegic examination.

After Dr. TAYLOR and Mr. FLEMMING had replied, the meeting concluded.

LIVERPOOL MEDICAL INSTITUTION.

Exercise Treatment of Knee Injuries.—Subphrenic Abscess.

A MEETING of this institution was held on Jan. 5th, Dr. T. R. BRADSHAW, the President, being in the chair.

Mr. G. P. NEWBOLT showed a patient whom he had observed for many years and on whom he had performed many operations for Intestinal Fistulæ due to Tuberculous Peritonitis. A considerable amount of the intestine had now been resected from time to time and the abdominal wall had become closed.—Mr. R. W. MURRAY pointed out the danger of closing both ends of a piece of intestine.

Dr. W. H. BROAD read a note on the Exercise Treatment of Knee Injuries, and advocated a much earlier resort to massage than was usually practised, even when considerable synovitis was present. Many of his cases had been severe football injuries.

Mr. FRANK JEANS read a paper on Subphrenic Abscess. He had operated with complete success upon three cases recently, one being probably pneumococcal in origin, one following appendicitis, and one possibly arising from an infection of the kidney. Mr. Jeans said that the diagnosis was often difficult and pointed out the frequent obscurity of the etiology. Appendicitis and gastro-duodenal ulcers accounted for more cases than other abdominal causes. In diagnosis he had derived great benefit from radiography. The transpleural operation as far back as possible was the best and most usually applicable. He used a very large rubber drainage-tube, at least 1¼ inches in diameter. The use of the aspirating needle was condemned. He considered that it was of great importance to obtain a vaccine from the material removal since the case might become chronic.—A discussion arose concerning the use of the exploring needle. The general opinion of the surgeons was that this should not be used unless the patient was already prepared for an operation. The President and other physicians, however, maintained that its use in some cases was necessary.—Dr. JOHN HAY thought that œdema of the chest-wall was more likely to be present in subphrenic than in pleural collections of pus.—Dr. W. B. WARRINGTON considered that, excluding those cases in which the pleura had become infected, the important guide was the recognition of normal or exaggeration of normal signs above a somewhat sharply defined line of abnormal thoracic signs.—Mr. F. C. LARKIN said that he had several cases in which a left subphrenic abscess had arisen from infection due to œsophageal injuries from foreign bodies.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases.

A MEETING of this society was held on Dec. 14th, 1910, at the Medical Institute, Edmund-street, Birmingham, Mr. W. F. HASLAM, the President, being in the chair.

Dr. A. STANLEY BARNES showed a typical case of Progressive Muscular Atrophy in a man aged 30 years. The atrophy was almost universal, but was most marked in the small muscles of the hands, the forearms, and in the shoulder girdle muscles. In the thigh and legs wasting to a moderate extent was present, but there was a considerable degree of spasticity with increase of the knee-jerks, ankle clonus, and extensor plantar reflex on both sides. The most exceptional feature of this case was that coincidently with onset of the muscle atrophy the patient developed epilepsy which was not of the Jacksonian type, and which persisted in spite of treatment throughout the nine months since the illness commenced.

Dr. A. DOUGLAS HEATH showed a female child, aged 2 years, with an eruption of Favus on the abdominal wall. The patch of eruption was circinate in shape and rather larger than a two-shilling piece, flattened in the centre and raised at the margins. On Dec. 2nd on the centre of the area and here and there on the raised margins were sulphur-yellow cups typical of favus. These had disappeared at the time the case was shown. Cultures taken from the yellow cups proved the fungus to be the achorion quinckeanum of Bodin, an uncommon variety of favus growing rapidly in white downy cultures. Another child, 8 years of age, and living in a house next door to the patient exhibited, had a red raised area on the outer side of one elbow with a well-defined favus cup in its centre. Dr. Heath had not seen this variety of favus before, all his previous cases having grown the achorion schoenleinii on culture, but a case had been shown before the Dermatological Section of the Royal Society of Medicine in October, 1908, by H. G. Adamson, which gave similar cultures.

Dr. HEATH also showed a case of Rodent Ulcer of the Nose in a woman aged 60 years. The disease had been present for six years, and for six months or longer had been ulcerated and covered by blood crusts. The ulcer was almost cured, having been treated by three exposures to pure radium bromide using a screen of lead foil and thin rubber. Each exposure had lasted for three-quarters of an hour and had been made at weekly intervals.

Mr. FRANK BARNES showed a case of Aneurysm of the Groin involving the Common Femoral and the Lower Part of the External Iliac Arteries treated by ligature of the external iliac by the transperitoneal route. The patient, a man, aged about 40 years, early in July last had received a blow in the groin from some tubes which he was carrying. He had pains in the groin, but did not complain of anything else until a month later, when he noticed a lump in the same place which grew rapidly larger during the next fortnight and caused him to seek advice. He was admitted to the hospital on Sept. 2nd and was operated upon on the 8th. His previous history included several years in the army, most of which he had spent in India. During that time he had had fever, and was warded for a month, and gonorrhœa, for which he was treated for a month, but never remembered having had syphilis or any sore at the time of his illness. The patient was placed in the Trendelenburg position, and the abdomen was opened half an inch to the right of the right linea semilunaris and the intestines packed off from the iliac fossa by means of

gauze sponges, leaving a clear view of the peritoneum covering the brim of the pelvis and right iliac fossa. The aneurysm was seen to extend about half an inch above Poupart's ligament. The peritoneum was opened half an inch above this in the line of the vessel, which was exposed and ligatured by a double ligature of kangaroo tendon applied separately according to the Ballance and Edmunds method, merely approximating the inner coats of the vessel. The peritoneum was sewn up over the artery with a small catgut suture and the abdomen closed in three layers with mass sutures through the whole wall. Pulsation ceased at once in the aneurysm. Return pulsation was noticed in the sac about the tenth day and then seemed to disappear in the course of the next few weeks. To-day, 14 weeks from the operation, the tumour is hard and is noticeably smaller; pulsation is to be felt both in the mass and in the apparently solid vessel for about two inches below Poupart's ligament, but only on careful palpation.

Mr. W. E. BENNETT showed a man, aged 52 years, suffering from Paresis of the Right Leg associated with Sciatica. The illness commenced in November, 1907, with an acute attack of sciatica on the right side, from which he recovered, and was able to work until July, 1910, when he had a recurrence of the pains in the right leg. On examination there was found to be a spastic contraction of all the muscles around the right hip-joint and those acting on the knee-joint. The muscles below the knee were flaccid and atrophied, and the patient was unable to raise his foot or to move his toes. Sensation was normal. All the muscles on the front of the leg reacted to faradism of medium strength. Those on the back of the leg did so very feebly to the very strongest faradic current. The patellar reflex was exaggerated, but all the other reflexes were normal. Babinski's sign was not present. The wasting of the muscles below the knee was considerable, the difference in the measurement round the calf of each side being 2½ inches.

Mr. B. J. WARD read notes on Four Cases after Resection of Gangrenous Intestine in Strangulated Hernia, giving details of the operation performed on each. End-to-end anastomosis after resection of the gangrenous intestine was effected by simple suturing. All four patients recovered and one was shown at the meeting.

Mr. A. W. NUTHALL exhibited a boy, aged 13 years, over whose right iliac crest was situated a large lymphangioma, the appearance of which agreed with a description given by Sir Jonathan Hutchinson and illustrated by him as lupus lymphaticus in his "Illustrations of Clinical Surgery." The main body of the nævus was a pear-shaped raised plaque three inches in length, and there were a number of isolated papillomatous outgrowths.

Reviews and Notices of Books.

A System of Syphilis. Vol. VI. Edited by D'ARCY POWER, M.B. Oxon., F.R.C.S. Eng., and J. KEOGH MURPHY, M.C. Cantab., F.R.C.S. Eng. London: Henry Frowde and Hodder and Stoughton. 1910. Pp. 574. Price £2 2*s.* net per vol., or to subscribers £10 10*s.* net the set of six volumes.

IT is very fitting, as Sir Alfred Keogh points out in the preface to this volume, the sixth and last of the series, that in a work dealing with the subject of syphilis one volume should be devoted to a consideration of that disease as it affects the naval and military services. Not only is the early history of the disease closely bound up with the military history of the fifteenth century, but there is no disease, with the exception of malaria, which plays so important a part in the medical history of the army and the navy. Even at the present day the question as to the complete curability of syphilis still awaits settlement, and there can be no doubt that the soldier or sailor who has once suffered from the disease is no longer the man that he was. He is more likely to break down under the stress of service conditions or the hardships of war, and syphilis undoubtedly has a greater effect in lessening the physical efficiency of the soldier than any one of the infectious diseases.

In the present volume the history and epidemiology of syphilis in the more important armies is dealt with by Lieutenant-Colonel C. H. Melville, R.A.M.C. The charts given showing a steady fall in the admission rate for this complaint are most interesting and encouraging, and demonstrate, as Sir Alfred Keogh points out, the good results which have attended the observance of a higher ideal of conduct on the part of the rank and file of the army, and the ungrudging and persistent efforts of the officers of the Royal Army Medical Corps. That the latter have done much to advance our knowledge of the pathology and treatment of syphilis must be admitted by all workers in this branch of medicine, and the fact that a large number of the articles in this System are written by officers of this branch of the service is further proof, if any were needed.

In the second section of the volume Captain L. W. Harrison, R.A.M.C., describes the pathology and microbiology of syphilis as applied to the public services, and this section is followed by one by Major C. E. Pollock, R.A.M.C., on its clinical course and treatment in the army. Surgeon C. N. Fiske of the United States Navy contributes a chapter dealing with some noteworthy features of syphilis in the navy of the United States of America, and Fleet-Surgeon E. P. Mourilyan, R.N., and Staff-Surgeon Charles K. Bushe, R.N., deal with the epidemiology and treatment of syphilis in the British Navy. The concluding article in the book is a short one on the value of Justus's test in the diagnosis of syphilis by Staff-Surgeon W. P. Yetts, R.N.

The illustrations, as usual, are excellent, and the whole volume forms a worthy conclusion to the System of which it is a part. We must congratulate the editors on the termination of their work and the success with which they have carried it out.

Memorials of 80 Years. By JOHN BEDDOE, M.D. Edin., LL.D. Edin., F.R.S. Bristol: J. W. Arrowsmith. 1910. Pp. xi.–322. Price 7*s.* 6*d.* net.

THESE memories of 80 years are really memorials of the quiet life of one of the last members of that band of workers who raised the study of anthropology to a science in this country. The book tells in a pleasant and chatty manner of the years, all too quickly passed, in which a hobby became a serious pursuit, and led Dr. Beddoe to his present position as a recognised authority on anthropology, more especially in relation to the races of Great Britain.

A delicate child, born of an old yeoman stock in south Shropshire, his early life was spent at Bewdley, where he soon became familiar with the flowers and insects of the forest of Wyre. Destined for the law, his dyspeptic troubles led him to study physiological chemistry, whence by easy gradations his attention was turned to medicine. He entered at University College, and ultimately obtained a medical degree both at London and at Edinburgh. Inclined to roam, and having some influence, he was appointed to the civil hospital staff during the Crimean war, and was attached to the hospital of Scutari, having amongst his companions E. A. Parkes, George Rolleston, Holmes Coote, J. Whitaker Hulke, Carsten Holthouse, David Christison, and John Kirk. The life was to his taste; he learnt Turkish sufficiently to carry him through the country, and some of the most interesting passages in the book are those describing the pleasant excursions made in a district which has not even yet become hackneyed. The war being ended, Dr. Beddoe did not immediately settle in practice but made a tour of Europe to observe the colours of the eyes and hair in the inhabitants of the different countries through which he passed, with the occasional measurement of a skull when it was possible without giving offence. In 1857 he settled as a physician at Clifton, not, he himself says, a very fortunate choice of locality, because he

had as his competitors J. Addington Symonds, father of the author, and Ed. Long Fox. In Bristol Dr. Beddoe's life seems to have pursued the even tenour of its way familiar to all practitioners, varied by journeys to Ireland and Brittany, and diversified by attendance at meetings of the British Association. Increasing age brought a respite from work and allowed time for a journey to the Antipodes before Krakatoa had done its fell work of destroying the pink terraces, but giving us the after-glow which was so remarkable a feature of our sunsets in the eighth decade of the last century. This journey showed to Dr. Beddoe the youthfulness which is so striking a characteristic of many of our colonies. It was brought home to him somewhat as a shock, for he says: "I was asked to preside at a teetotal meeting and was a little surprised at its conclusion when a gentleman proposed a vote of thanks to 'our venerable friend in the chair.' I was fifty-nine, and though bald and grey had as yet no feeling of the approach of old age; but when I had spent a little more time in the colony I recognised that there was hardly a man over sixty in the whole of North Queensland."

The Welsh blood running in the veins of Dr. Beddoe must be held responsible for the curious vein of superstition, thinly veiled as "coincidence," which crops up two or three times in the narrative. Here and there, too, are occasional slips, as when Syme is given a title, Rolleston is described as a surgeon, and the name of Sir William Macewen is spelt incorrectly; but these are as nothing, and the interest of the book is great. The frontispiece represents Dr. Beddoe photographed as he stands in front of his house at Bradford-on-Avon.

Human Anatomy for Art Students. By Sir ALFRED D. FRIPP, K.C.V.O., C.B., M.B., M.S. Lond., F.R.C.S. Eng., Surgeon-in-Ordinary to H.M. the King, Surgeon to, and lately Lecturer upon Anatomy at, Guy's Hospital; and RALPH THOMPSON, M.B., Ch.M. Vict., F.R.C.S. Eng., Senior Demonstrator of Anatomy, Guy's Hospital. With drawings by INNES FRIPP, A.R.C.A. Lond., Life-Master, South London Technical Art School, City Guilds; and an Appendix on Comparative Anatomy by HARRY DIXON, M.S.B.S. With 151 illustrations. London: Seeley and Co., Limited. 1910. Pp. 296. Price 7*s.* 6*d.* net.

ALTHOUGH this book is written especially for students of art it is fair to say that there is much in it with which the average student of medicine would do well to have a better acquaintance; for the work possesses what so many so-called "human anatomies" utterly lack—an element of human nature introduced among the many structures of which the human body is composed. There is much sound art in the book, and much anatomy that is good and really human. The style of writing is familiar and easy, and we are glad to see that the customary rigid phraseology of descriptive anatomy is, for the most part, replaced by a much less stilted, but no less effective, style. It is not impossible that in places this change has been carried rather too far, and exception might be taken to the description of the skin as "smooth and moist, yet not messy."

The writing of the book has been ruled by strong common-sense and a keen observation, and such a section as that describing the development of the young child is obviously the outcome of personal and interested study. It is somewhat to be doubted, though, if any special adaptation is to be seen in the fitness of the ball of the infant thumb to furnish an air-tight plug for the infant mouth, or in the fitting of the groove between two fingers to the philtrum of the upper lip when a child sucks its fingers.

The illustrations by Mr. Innes Fripp are excellent, but the reversing of Fig. 66 makes it very confusing, and one or two minor imperfections may be noted. The pelves represented on p. 45 as respectively male and female show two rather obvious sex contradictions, for in the female the centrum of the first sacral vertebra appears to be as large absolutely, and relatively to the lateral masses, as in the male; also in the female the acetabula are as large as they are in the male. The drawings of surface anatomy are excellent, and a series of photographs of the nude goes to complete a human study of the form of the human body which is a useful work and a genuine addition to anatomical literature.

Anæmia. By Professor P. EHRLICH and Professor A. LAZARUS. Part I., Vol. I.: Normal and Pathological Histology of the Blood. Second edition. By Professor LAZARUS and Dr. O. NAEGELI. Translated from the German by H. W. ARMIT, M.R.C.S. Eng., L.R.C.P. Lond. London: Rebman, Limited. 1910. Pp. 218. Price 12*s.* 6*d.*

PRESSING obligations prevented Professor Ehrlich from taking part in the preparation of this second edition, and he therefore requested Dr. O. Naegeli to coöperate with Professor Lazarus.

The first chapter commences with a definition of anæmia. In its etymological sense this word deals with a blood the content of which is smaller than in health, but, as the authors point out, in practice all conditions in which a diminution of the hæmoglobin content is ascertainable must be regarded as anæmic. In the majority of cases, even if this diminution is not quite constant, oligæmia and oligocythæmia exist simultaneously in varying degrees. The most important methods of clinical hæmatology depend, directly or indirectly, on the recognition of these changes, and the rest of the chapter is occupied with a discussion of the methods employed for the examination of the blood.

The author deals next in an exhaustive manner with morphology and pathological histology, and so reaches perhaps the most important section of the book, which contains a detailed consideration of the white blood corpuscles. The normal histology and classification of the cells are first described and explained; then follow some remarks on the origin of the leucocytes and on the demonstration and significance of the cell granules. The wonderful application of intracellular chemistry which characterises Professor Ehrlich's work on the blood is well set forth. The authors of this work maintain that at the present time there is no longer any really earnest opposition to Ehrlich's doctrine of the specificity of the granulations and of the formed mature types of leucocytes. But an energetic struggle may still be said to exist with regard to the further question as to whether a sharp division should be drawn between the lymphatic and the myeloid systems, and between the cells which are derived from these two tissues. Professor Ehrlich has enunciated this dualistic doctrine as the most important result of his long-continued studies. We agree with the authors in the opinion that if all the arguments for and against the dualistic doctrine be reviewed, the past few years have brought some very important facts which speak in favour of this doctrine. Dr. Naegeli has been able to show by embryological investigations that the myeloid system first develops, and that much later, and as an absolutely separate phenomenon, the lymphatic system follows. He considers that in view of this fact the idea that myeloid tissue is only a more highly developed form of lymphatic tissue must be dismissed.

The subjects of leucocytosis and leukæmia are next considered at length, and many interesting points are discussed under these headings with the fulness that might be anticipated. A short description of the blood platelets concludes the work. It should be added that Mr. Armit has performed the task of rendering the ideas of the authors into a readable form of English with great success, and has thus enabled the medical profession in this country to have at its disposal a valuable work. It aims chiefly at defending

the manifold doctrines which Ehrlich has introduced into hæmatology, but these doctrines have earned a right to consideration.

Spiritism and Insanity. By Dr. MARCEL VIOLLET, Médecin des Asiles, Paris. (Library of Experimental Psychology and Metapsychism, edited by Dr. RAYMOND MEUNIER, Paris.) 1910. London: Swan Sonnenschein. Pp. 137. Price 2*s.* 6*d.* net.

THIS is the first of a series of little books addressed to the profession and to the educated public generally, whom it is hoped thus to keep acquainted with all the data acquired by contemporary science in the psychological and psychical domains. The collection will form a sort of synthetic essay on the *ensemble* of psychological questions and problems relating thereto.

Dr. Viollet begins by a description of various spiritualistic phenomena such as he has personally observed at *séances* by professional mediums; and, without passing any critical judgment on them, he emphasises the extent to which the "reality" or otherwise of these phenomena depends on the degree of "preparedness" of the members of the circle, each of whom is doing his utmost to get into *rapport* with the medium. Obviously the sole guarantee for the reality of the facts is the evidence of the senses of the spectators—a very inadequate basis on which to erect any interpretational hypothesis. Are we not accustomed to see the hallucinated insane not only believe in the reality of their hallucinations, but, moreover, rest persuaded that they are perceived by everybody? It is clear that there enter into the constitution of spiritualistic doctrines certain elements analogous to those entering into the constitution of certain forms of insanity; further than this Dr. Viollet does not go. The rest of the volume is taken up with an account of various clinical cases that have come under his own observation, in which frankly insane patients have suffered from mental symptoms that took birth in spiritualism, and these cases provide instructive reading. The anonymous translator of the book is to be complimented on his rendering of the original French.

Gynecological Diagnosis. By WALTER L. BURRAGE, A.M., M.D. Harv. With 207 text illustrations. London and New York: D. Appleton and Co. 1910. Pp. 656. Price 25*s.* net.

THIS clinical manual has been written for those who have not had an opportunity of studying gynæcology in special hospitals or clinics. Whether any manual, however good, will enable a practitioner in such conditions to become an expert in the diagnosis of gynæcological affections is a question to which our answer would be in the negative. Of all the branches of medicine gynæcology is essentially one which demands a considerable amount of clinical experience if any real skill is to be obtained in diagnosis. No doubt, however, many students will use this book in connexion with their practical work in the out-patient department or in the ward, and will thus learn a great deal which will enable them to make the best use of their clinical opportunities. It is an excellent manual, some parts being of especial interest, while on the whole the author has succeeded in his attempt to keep in the background those diseases which only appeal to the specialist and to give prominence to the commoner diseases of more importance to the general practitioner. The book contains chapters on the diagnosis of diseases of the bladder and rectum which should prove very useful, and also one on diseases of the breast, as the author considers these organs a part of the reproductive system, having intimate relations to the genital organs.

The first part of the book is concerned with the process of history-taking, the physical examination of the patient, and the special methods of investigation of the diseases of certain organs, such as the bladder and rectum. In the second part each disease is discussed in detail, a short account being given of the normal anatomy and physiology of each organ, and then the differential diagnosis is gone into. Frequent use is made of tabular statements in the differential diagnosis of different conditions, and a sufficient description is given of each disease to remind the reader of its main features. The author points out that the term endometritis is greatly misused, and that in the great majority of cases of hypertrophy of the endometrium, wrongly called endometritis, there is no evidence at all of any inflammation. Although apparently he agrees with this proper view of the matter, yet we find a certain amount of confusion on his writing, for a number of conditions, the result in reality of chronic congestion of the uterine mucosa, are described under the heading of chronic endometritis.

We regret, also, that the author does not attempt to answer the question as to what is an erosion, although from his description it is clear that his conception of an erosion is perfectly correct from the anatomical point of view, and we are glad to see that he does not label it by the misleading term "adenoma." But here again there is some confusion, for while Dr. Burrage says that "in an erosion there is no inflammatory action," yet on the next page the term endocervicitis is apparently used as signifying the condition of the cervix accompanying an erosion.

In discussing the effect of fibroid tumours upon neighbouring organs, we are told that they are a cause of abortion, and yet figures are quoted giving an abortion-rate of 12·7 per cent. and 15 per cent., as low as, and indeed probably lower than, the abortion-rate in all classes of pregnant women, which most authorities maintain is nearly 20 per cent. There is a good chapter upon the menopause.

The book is a useful compilation of its kind, and should prove helpful to students and practitioners. The index is full and the alphabetical index of the illustrations is a useful feature.

Movable Kidney: Its Etiology, Pathology, Diagnosis, Symptoms, and Treatment. By WILLIAM BILLINGTON, M.S. Lond., F.R.C.S. Eng., Senior Surgeon to Out-patients, Queen's Hospital, Birmingham. With 12 full-page plates and illustrations in the text. London, New York, Toronto, and Melbourne: Cassell and Company, Limited. 1910. Pp. 167. Price 7*s.* 6*d.* net.

THERE are few matters about which greater diversity of opinion exists than the importance of moveable kidney. Though nearly all are agreed that serious symptoms may arise in consequence of abnormal renal mobility, yet while some consider that urgent symptoms very rarely result from moveable kidney, others consider that the most diverse symptoms, often of the greatest severity, may be directly or indirectly due to this cause. Mr. Billington has for several years devoted a great deal of attention to the subject, and he is convinced that moveable kidney is an important factor in the production of many serious symptoms, and that fixation of the kidney will in many cases prove exceedingly effective. He does not operate on every case of moveable kidney which he sees. Relief has been afforded to some by belts and other forms of mechanical support, but he has found it necessary to operate in 230 cases, and he has fixed in place more than 350 loose kidneys.

With regard to the frequency of the condition, the author believes that it is less common among the general community than appears at first sight, but that among the ailing and weakly it is far more often met with. He agrees with all other observers that the affection is much more common in women than in men, and if only the operations were considered the comparative frequency would be 8 to 1; but he believes that these statistics represent the frequency in

men to be greater than it is, for the man with a loose kidney is more likely to seek operation, perhaps, than is the woman. Trauma resulting from muscular overstrain is, he considers, the most common cause of the affection, and he attributes also some of the responsibility to corsets, especially when they are high-waisted.

The operation which Mr. Billington prefers consists in raising a triangular flap of kidney capsule from the upper half of the organ, and below this silkworm sutures are passed through the capsule of the lower half of the kidney. The kidney is pushed up until the base of the flap is level with the lower border of the last rib. The flap of capsule is passed over the rib and stitched to the capsule below. The silkworm-gut sutures are made to pass through the muscle and skin above the incision, and are there tied over a roll of gauze. As to the results of the 350 operations, two deaths occurred, but in neither case was this occurrence apparently due to the operation. Mr. Billington is very satisfied with the effect of the operative treatment, both as to the fixation of the kidney and the relief of symptoms.

There is certainly something to be said in favour of nephropexy, but we are inclined to think that Mr. Billington's enthusiasm has carried him a little farther than most medical men would go. That in certain cases mobility of the kidney may reflexly produce troublesome symptoms we are willing to acknowledge, but we cannot accept the widespread influence which some would attribute to this frequent lesion. We should like to see in a future edition of this work a list of all the cases operated upon by Mr. Billington with the results obtained.

A Text-book of Veterinary Anatomy. By SEPTIMUS SISSON, S.B., V.S., Professor of Comparative Anatomy in Ohio State University, Columbus, Ohio; Member of the American Association of Anatomists. With 588 illustrations. London and Philadelphia: W. B. Saunders Company. 1910. Pp. 826. Price 31*s.* net.

THIS is one of those excellently illustrated text books of anatomy of which so many have been issued in America, but it possesses the distinction of being one of the very few that are devoted to the anatomy of the domesticated animals. A great deal of care has been lavished on the preparation of the book, both by the author and by the publishers, and the result is a very handsome treatise on veterinary anatomy. The book is profusely illustrated, for it contains 588 figures, many of which are coloured, and several of them are original. Most of the new illustrations are done from photographs, and are in every way satisfactory; most are included in the chapters dealing with the digestive and respiratory systems; and it is in the description and illustration of the viscera that the book has made the most welcome additions to the text-book literature of veterinary anatomy. The remaining illustrations are taken from the beautiful plates of Ellenberger and Baum or from the work of Professor Schmaltz.

The method of the book consists in describing the body system by system, and dealing under each heading with the organs of the horse, the ox, the pig, and the dog; while in the case of the digestive system the viscera of the sheep are also included for the sake of comparison. The science of veterinary anatomy has arrived at a stage in which it has corrected many wrong impressions concerning the natural form of most of the viscera, a stage already passed through in the case of human anatomy; for the introduction of formalin hardening by intravascular injection has naturally modified the views of veterinary anatomists, just as it did those of the human anatomist. The author has therefore been at pains to secure illustrations done from photographs of good specimens of the normal viscera hardened *in situ*, and in this he has well succeeded; he has also called to his aid the knowledge gained from the preparation of frozen sections carried out during the last ten years at the Ohio State University. He has presented the whole in a text-book, the general make-up of which is excellent.

LIBRARY TABLE.

Hernia: Its Causes and Treatment. By R. W. MURRAY, F.R.C.S. Eng., Surgeon, David Lewis Northern Hospital, Liverpool; late Surgeon, Liverpool Infirmary for Children. With 62 illustrations. Second edition. London: J. and A. Churchill. 1910. Pp. 184. Price 6*s.* net.—This is the second edition of a very readable treatise on hernia which Mr. Murray has written dealing especially with its etiology and its treatment. He is a supporter of Mr. R. Hamilton Russell of Melbourne in believing that the presence of a sac is the essential cause of hernia, and he maintains that the really necessary part of the operation for the radical cure of hernia is complete removal of the sac, a doctrine and mode of treatment which are made to apply not only to inguinal hernia, for which the theory of origin was first formed, but also to femoral hernia. There is very much to be said in favour of the congenital origin of a large proportion of hernie, especially of those passing through the inguinal canal, and every year an increasing number of medical men accept this theory, but to apply it to all cases is perhaps carrying the view too far.

Atlas und Grundriss der Verbandlehre für Studierende und Aerzte. (*Atlas of Bandaging.*) Von Dr. ALBERT HOFFA, a.o. Professor an der Universität, Berlin; Geh. Medizinalrat, Direktor der Universitäts-Poliklinik für Orthopädische Chirurgie. Nach der Verfassers Tod bearbeitet von Privatdozent Dr. RUDOLF GRAHSEY, München. Lehmann's Medizinische Handatlanten, Band 13. Vierte, wesentlich vermehrte Auflage, mit 170 Tafeln und 134 Textabbildungen. München: J. F. Lehmann. 1910. Pp. 152. M 10.—We have on many occasions commended the volumes issued in this series, and the favourable opinion which we have expressed with regard to other books belonging to it is certainly equally fully deserved by the volume before us. It is always difficult in preparing a work on bandaging to know where to draw the line between those forms of bandaging of proved utility and those which are merely fantastic variations. We think that Dr. Rudolf Grahsey, who is responsible for this fourth edition, is to be congratulated on the result of his labours. The descriptions are brief and to the point, and the diagrams represent very accurately the various forms of bandage. In most cases the drawing of the bandage applied is accompanied by a diagrammatic key-picture which shows clearly how the bandage should be put on. The application of splints is also shown in figures, and the varieties of trusses illustrated by various figures are also described.

Pathogeny of the Neurasthenic States. By Dr. PAUL DUBOIS, Professor of Neuropathology at the University of Berne. Authorised translation by EDWARD G. RICHARDS. London and Edinburgh: William Green and Sons. Pp. 61. Price 2*s.* net.—This is a reprint and translation of a communication presented by Professor Dubois at the Tenth French Congress of Medicine held at Geneva in September, 1908, and in it the reader will find a lucid summary of the views on the psycho-neuroses which he has promulgated in various papers and volumes. In assigning a common origin to the "neurasthenic states"—for Professor Dubois is a convert to the view which prefers the conception of "episodic syndromes" to that of "morbid entities"—in a primitive mental defect, a "psychasthenia" in the general sense, he appears to postulate too much, for in many

patients who have one attack of nervous debility, from which a complete and lasting recovery is made, we fail to find any trace of that fundamental inferiority which Dr. Dubois describes, nor do we require its aid to explain the symptoms. But although the reader may be unwilling to subscribe to all of the author's dicta, he will appreciate the eminently practical spirit that characterises this essay and the clinical acumen of its writer.

The Vision of the Young Man Menelaus: Modernist Studies of Pentecost and Easter. By the Author of "Resurrectio Christi." London: Kegan Paul, Trench, Trübner, and Co. 1910. Pp. 211. Price 2*s.* 6*d.* net.—It is difficult, and might possibly be unfair, to attempt to summarise the argument in this book, which is concerned with the discrepancies in the differing versions of the resurrection of Christ. These versions present features that can only be described as mutually contradictory, as many scholars have fully recognised. In an endeavour to reconcile the discordances the author develops the hypothesis that many of the Christophanies were subliminal, and supports his opinion by an appeal to the dicta of what he chooses to call the new science of religious psychology, the chiefest assumption of which is that "if God works directly in man He must work through the subconsciousness." Taking this frank assumption for a basis, the author proceeds to elaborate solutions of the problems concerned which culminate in the statement that "subliminal telepathy is only another name for the Communion of Saints." Not only does he take the "facts" of telepathy as proved, and talk of it as a recognised commonplace, but he also appeals so complacently to the phenomena of the subconscious mind, as though that conception in an organised and unvarying form were part of the current coin of the world of thought, that it is hard to believe he can be aware of the difficulties which surround the subject. There are half a dozen differing conceptions of the subconscious mind, some at least of which are mutually incompatible, and from its very nature the mechanism of the phenomena with which we suppose the subconsciousness to be concerned must escape us whenever we attempt to analyse it. If we are once to grant, as the author would have us, "the ability of the subconsciousness to acquire telepathic impressions from outside," then we can follow his argument in its entirety, but whether our admiration of the Apostles of old is thereby augmented is another matter. We recommend our readers, however, to judge the book for themselves; they will be struck alike by the erudition of the author and the spirit of reverence with which the subject is handled.

Dr. Grey. By STEPHEN ANDREW. London: Greening and Co., Limited. 1911. Pp. 320. Price 6*s.*—Stephen Andrew, who acknowledges in his dedication that he is a medical man, has written a book which is quite worth reading. It is not a novel, for there is no plot, no particular story, and the love interest is of quite a secondary character. Incidentally, we do not like a heroine who calls her lover "Arthur boy." But as a picture of the trials and struggles of a general practitioner whose lot lies among the poor, and of the manners and customs of those poor, it is good. It cannot be placed in the same rank with "Liza of Lambeth," for Mr. Andrew does not write with the grim aloofness which Mr. Maugham, also a medical man, employed so effectively in his first literary work; "Liza of Lambeth" is permeated with the atmosphere of the Virgilian Fatum; such things as are described therein happen because they must happen. Mr. Andrew's pictures of medical life are simply and accurately drawn; St. Dorothea's Hospital, at which Dr. Grey studied, had one curious custom in which we hope it is unique among London hospitals—namely, that the house physician on his rounds at night examined all the new cases which had been admitted during the day, but otherwise he draws a faithful portrait of the modern *interne*. The pictures of club practice are lifelike, and the descriptions of the various types of practitioners with whom Dr. Grey comes in contact in his search for a practice are very well done. The practitioner who, buried in a little country practice, is on the verge of becoming a drunkard, owing to the loneliness of his position, is now an obsolete type, but such cases occurred 50 years ago, especially in the fen country, where many a man took to opium eating as a remedy in malaria, and as a stimulant and narcotic. Dr. Grey eventually settles down in a midland ironworks town, where his experiences are described with much realism. One of his friends, a Radical journalist with whom he has many a discussion on medical politics, suggests as a remedy for poverty, both that of the poor medical man and that of his poor patients, the formation of a State Medical Service, a question of great moment just now.

JOURNALS AND MAGAZINES.

Quarterly Journal of Microscopical Science. Edited by Sir E. RAY LANKESTER, K.C.B., F.R.S., with the coöperation of ADAM SEDGWICK, M.A., F.R.S., SYDNEY J. HICKSON, M.A., F.R.S., E. A. MINCHIN, M.A., and GILBERT C. BOURNE, M.A., F.R.S. December, 1910. London: J. and A. Churchill. Price 10*s.*—This number, the first part of Vol. LVI., is mainly occupied by a contribution to the Embryology of the Marsupialia, by Professor J. P. Hill, containing an account of the principal results and conclusions at which he has arrived after a protracted and much interrupted study of an extensive collection of early developmental stages of marsupials, ranging from the fertilised egg to the blastocyst, in which the two primary germ-layers are definitely established. The material at his disposal was obtained in Australia and comprised a fairly complete series of stages of the native cat (Dasyurus viverrinus), together with a few early stages of other marsupials—namely, Parameles and Macropus. Our knowledge of the processes of cleavage and germ-layer formation in the marsupialia is based largely on the observations of Selenka on the development of the Virginian opossum. The divergence between Professor Hill's and Selenka's results is explained by the fact that Selenka's early material was derived from but two pregnant females, and consisted of many eggs which had failed to develop normally. The conclusions at which Professor Hill arrives are, first, that the embryonal or formative region of the unilaminar marsupial blastocyst is the homologue of the inner cell mass or embryonal knot of the eutherian blastocyst; and, secondly, that the extra-embryonal or non-formative region of the same is the homologue of the extra-embryonal ectoderm of the Sauropsida and Monotremata, and of the trophoblast of the Eutheria. As regards the first conclusion, there is not likely to be much difference of opinion, but Professor Hill feels that the second will prove neither obvious nor acceptable to those mammalian embryologists who, with only Selenka's account before them, have formulated other views as to the morphological nature of the outer enveloping layer of the eutherian blastocyst. Specialised though the marsupials undoubtedly are in certain features of their anatomy, Professor Hill's observations do not afford any ground for the supposition that their early ontogeny is also of an aberrant type; on the contrary, his observations tend to show that the marsupial type of early development, not only readily falls into line with that of Eutheria and Prototheria, but furnishes a key to the correct interpretation of that extraordinarily specialised developmental stage, the eutherian blastocyst, and bridges the gap in our knowledge of the way in which the transition from the monotrematous to the eutherian

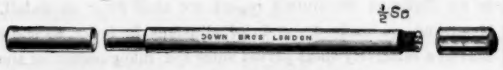
type of development has been effected. The article is illustrated by plates, reproductions of drawings executed with the aid of Zeiss's camera lucida; these plates contain 85 drawings, each one of which is a perfect work of art. Included in this number is a memoir by Dr. Iwaji Ikeda on a deep-sea echiuroid animal, a very curious and hitherto undescribed species belonging apparently to the genus Hamingia. There is also a description of the blood of certain coleoptera, Dytiscus marginalis and Hydrophilus piceus, by Dr. Wakelin Barratt and Mr. George Arnold, from the Cancer Research Laboratory of the University of Liverpool. The circulating fluid of these coleoptera resembles mammalian blood in so far as it is an albuminous fluid and contains cells. The fluid part resembles mammalian blood plasma in containing proteid coagulable by heat, and a globulin held in solution by the saline constituents of the fluid. The cellular elements are represented by phagocytes and small round cells, whose characteristic feature is the scanty cytoplasm surrounding the nucleus. The circulating fluid differs in its low osmotic pressure and in the absence of cells containing hæmoglobin, no oxyphile granules are present, and no spontaneous coagulation of the blood takes place on standing. In both insects oxygenation appears to occur by direct transfer to the tissues of oxygen supplied by the tracheal vessels, the blood plasma not serving as a medium of exchange.

L'Hygiène.—The second year of this illustrated monthly commences with the December issue, and the high level of excellence to which we have previously drawn attention is kept up. In the latest number Dr. Maurice de Fleury writes an elegant and eloquent note to the memory of the late Professor Raymond. Professor Courmont of Lyons discusses the modern construction of hospitals, and there are the usual articles dealing with cookery and gastronomics rather from a medical standpoint. The principal contribution to this number, however, is an essay, by Professor Charles Richet of the Academy of Medicine, on physical education, humorously and effectively illustrated by Maurice Taquoy. Writing gravely, though in a sportive way, on the ancient theme of the relation of the health of the body to the health of the mind, Professor Richet lays down the following simple formula: "Sur les huit heures de repos, deux heures de travail intellectuel aux artisans; deux heures d'exercice physique aux intellectuels." The truth of this dictum he proceeds to establish on physiological grounds.

New Inventions.

A NEW THERMOMETER CASE.

Messrs. Down Bros., of 21, St. Thomas's-street, London, S.E., have made for me a new thermometer case to which I wish to draw the attention of the medical profession. This case is divided into two chambers, which are separated by a perforated partition. The smaller chamber screws on to the larger, and is made to contain a portion of a formalin tablet. The formaldehyde vapour



liberated from the tablet passes up through perforations into the large chamber, which contains the thermometer. The advantages of an antiseptic thermometer case are obvious, especially when there is no fluid which can leak into the pocket. It is only a quarter of an inch longer than the ordinary case, and is sold by Messrs. Down Bros. at the price of 2*s.* 6*d.*

F. W. MORTON PALMER, M.D. Cantab.

Teignmouth.

"TABLOID" EMERGENCY CASE FOR PHYSICIANS.

IN order to provide a convenient receptacle for those special medicaments and remedial agents which a physician would wish to have by him in case of sudden emergency, Messrs. Burroughs Wellcome and Co., of Snow Hill Buildings, London, E.C., supply a special outfit consisting of a light but strongly constructed hand-bag made of steel, and covered inside with morocco and outside with cowhide. It opens with a spring catch and is divided into three separate compartments, which are kept free from dust by hinged and leather-covered steel doors, so that the contents of the case, whether frequently required or not, are always ready and in good condition when occasion arises for

their use. The weight complete is about 5 pounds. The case, which measures 8½ by 5½ by 3¼ inches, contains "Vaporole" products (for hypodermic use) of "Ernutin," pituitary (infundibular) extract, "Hemisine," strychnine, sulphate and morphine hydrochloride, a B. W. and Co. all-glass hypodermic syringe with two needles, "Tabloid" hypodermic products, "Soloid" sodium chloride and "Soloid" corrosive sublimate, and "Wellcome" Brand chloroform in tubes, apparatus for intravenous injection, œsophagus tube, bandages and dressings.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. S. J. de Lange has been recognised as *privat-docent* of Microscopic Anatomy of the Nervous System.—*Berlin:* Dr. Claus, Oberarzt of the Otological Polyclinic of the Charité, has been appointed Director of the Laryngological and Otological Clinic of the Rudolph Hospital. Dr. Josef Koch has been granted the title of Professor. Dr. Kurt Adam has been recognised as *privat-docent* of Ophthalmology, Dr. P. Reyher as *privat-docent* of Children's Diseases, and Dr. Eugen Joseph as *privat-docent* of Surgery.—*Breslau:* Dr. Walter Hannes, Oberarzt of the Gynæcological Clinic, has been granted the title of Professor.—*Halle:* Dr. Hermann Gocht, whose specialty is orthopædic surgery, has been granted the title of Professor. Dr. Alfred Denker of Erlangen has been offered the chair of Otology.—*Jena:* Dr. Ludwig Wrede has been recognised as *privat-docent* of Surgery.—*Königsberg:* Dr. Hoeftmann, whose specialty is orthopædic surgery, has been granted the title of Professor.—*Leipsic:* Dr. Hans Vörner has been recognised as *privat-docent* of Dermatology.—*Munich:* The University Polyclinic which used to be in the Sonnenstrasse has been removed to the fine new building in the Pettenkoferstrasse, which was opened with an imposing ceremony.—*Münster:* Dr. Otto Krummacher has been recognised as *privat-docent* of Physiology.—*Naples:* Dr. Raffaele Janni has been recognised as *privat-docent* of Topographical Anatomy and Operations.—*Padua:* Dr. Vincenzo Mario Carletti and Dr. Pier Diego Siccardi have been recognised as *privat-docenten* of Internal Pathology, and Dr. Gino Dedin as *privat-docent* of Pædiatry.—*Palermo:* Dr. Stefano Barba, Dr. Giovanni Di Cristina, and Dr. Pietro Salvatore have been recognised as *privat-docenten* of Internal Pathology, and Dr. Giuseppe Sulli as *privat-docent* of Forensic Medicine.—*Paris:* Dr. Dejerine, professor of internal pathology, has been appointed to succeed Professor Raymond as Clinical Professor of Diseases of the Nervous System at the Salpêtrière.

THE LANCET.

LONDON: SATURDAY, JANUARY 14, 1911.

The Report for 1909 of the Medical Officer of the London County Council.

THE eighteenth annual report of the medical officer of health for the administrative county of London has been issued during the present week. The volume has been submitted to the London County Council by the chairman of the Public Health Committee, Mr. W. FREEMAN BARRETTS, who, in a brief introductory paragraph, records his official sanction to its circulation, instead of prefacing it, after the manner of some of his predecessors, with a commentary of his own, which, truth to say, was a somewhat superfluous proceeding. In each of its departments Sir SHIRLEY MURPHY'S report manifests the same high standard of excellence as that which has characterised its several predecessors.

The subject-matter is arranged under convenient headings which have been carefully indexed to facilitate reference. The first part deals statistically with the incidence of disease and of mortality from the principal causes in the several districts of the metropolis. The second, which in recent reports has tended to become the most important part, treats in detail of the administrative proceedings of the County Council, and particularly of its action in supervising and coördinating the work of the metropolitan sanitary authorities, and shows evidence of the steady improvement in the public health and sanitary condition of the metropolitan area which has prevailed since the establishment of the County Council, and presumably because of that event. Fiscal considerations make it obvious that under no system of merely parochial government could the vast and costly schemes have been accomplished by which many of the most pestilential areas of the poorer parts of London have been swept away. If proof of this contention were needed the persistence in these areas of notoriously wretched conditions throughout the long period of vestry control would supply it in abundance. In striking contrast with these conditions may be placed the auspicious results that have been achieved by the County Council within the first vicennium of its existence. Some of these results are already manifest; they consist in the betterment of dwellings for the working classes, the widening or opening out of narrow streets, courts, and alleys, the demolition of unhealthy areas and the provision of open spaces for the recreation of the inhabitants—in a word, the progressive sanitary improvement of the metropolis generally. We sincerely trust that the London ratepayer, who undoubtedly has to bear the burden, will regard these benefits as full compensation for the heavy expenditure incurred. Many of the results of the Council's operations are not as yet fully apparent, and for their complete fruition we must look to the future, and the exceptional powers for the protection of the public health which the County Council has obtained from Parliament in the successive General Powers Bills of recent years. We do not know whether a complete list of these powers has been published, but from the detailed accounts contained in Sir SHIRLEY MURPHY'S successive reports we are convinced that many of them are of substantial and far-reaching importance. In recent years, at any rate, the supreme governing body of the metropolis has become conspicuous among English municipalities as an earnest and successful promoter of sanitary legislation; and there is no reason to doubt that as time goes on it will acquire still more perfect equipment for the discharge of its manifold responsibilities as custodian of the health of the community. Among a multitude of special powers conferred on the Council we may particularise those which are designed to secure a higher standard of cleanliness and comfort in dwellings occupied by the labouring classes. Only recently, for instance, the Council has obtained legal authority to require the provision of suitable cooking arrangements in tenement houses, for the supply of water to the upper storeys of such houses, and for the cleansing of inhabited rooms and their contents from vermin. Again, even so recently as last year, the powers of the Council were still further strengthened by the addition of clauses requiring provision of adequate arrangements for the storage of food. A further important provision contained in the General Powers Bill of the same year empowers the metropolitan sanitary authorities to secure that in all places where food is prepared for sale the conditions under which it is dealt with shall conform to reasonable sanitary requirements. In this way the many thousands of restaurants, cook-shops, and other like places where food is prepared for the working-classes will be brought under supervision, and conditions of cleanliness will be enforced as regards, not only the premises and utensils, but also the food itself and the persons employed in its preparation. Among other exceptional powers, the due enforcement of which will undoubtedly tend to improve the health and comfort of Londoners generally and for which the Council has obtained Parliamentary sanction, are those for the regulation of offensive trades, and for the compulsory cleansing of verminous persons in school and elsewhere.

To the action of the London County Council in administering these powers, as well as to other matters dealt with in Sir SHIRLEY MURPHY'S report, we shall refer in detail. Meantime we make these brief allusions in order to show that in a relatively short period since the inauguration of the London County Council it has been entrusted with extraordinary powers for the protection of its citizens from disease which it has used with great discretion. We direct particular attention to this fact, in the hope that other large municipalities may be encouraged to acquire similar powers and to employ them with a like care.

Forthcoming International Exhibitions and Congresses.

A GLANCE at the Diary of Forthcoming Congresses which we publish from time to time in our columns will show that we are on the threshold of a year of special activity in all that relates to national and international congresses and exhibitions. This is the more satisfactory as, at least in respect to international exhibitions, we have, as a nation, managed recently much better than we were wont to do. Formerly, if the British Government decided to take part in an international exhibition, it acted as if such a thing had never happened before and was never likely to happen again. A Commission was appointed on each occasion to look after the interests of the country, but it was dissolved when the exhibition was over. All the experience acquired by that Commission was lost. There was no continuity and no tradition in the way which we dealt with international exhibitions. Other countries have for years made better use of that most valuable of all assets—experience. In Germany the Government, and in France the Government and some of the larger municipalities, have been able to carry forward from exhibition to exhibition the accumulating lessons of the different occasions by the institution of standing committees. Nothing of the sort has in any case taken place with us. British exhibitors have had no experienced Government officials to advise them and never quite knew what expense or trouble was in front of them. The would-be exhibitor was left to deal unaided with the railway rates of the various countries, the rates of water carriage, and the formalities of the Custom-houses. On the exhibition ground itself, the costs of hiring stands and the expense of their installation, their lighting, water-supply, and so on, all wore the appearance of so many snares to our exhibitors unless they had frequently been through the ordeal. The necessary outlay seemed preposterous because it was unexplained. No wonder that many British exhibitors were discouraged, and that the British section at these exhibitions was too often not worthy of the position of the nation in respect to our numerous industries. This has now been changed and the first evidence of the good results obtained was given last year at the Brussels Exhibition.[1] A permanent department has been created at the Board of Trade whose mission it is to deal with the national part to be played at these exhibitions. The exhibitor will now find that the rates for carriage of his goods by land or sea have all been arranged for him and that he will profit by considerable reductions on the usual tariffs. At the international exhibition itself, where the Government is recognising the affair, British authorities take charge of his consignments, provide men to unpack them, and help him to "dress" his show and decorate it in harmony with the entire section.

Whatever lessons may have been learnt in Brussels, where this activity of the Board of Trade was first manifested, will be applied at the next exhibitions. It happens that the particular experience of Brussels was of a most dangerous character. No one will have forgotten the terrible fire which destroyed the entire British section. The result is that never in the world's history have such elaborate precautions been taken against fire as those now in course of preparation at the Turin exhibition, and more especially in the British section. First, at Turin itself 20 fire stations are admirably organised, the water-supply is ample, and the pressure sufficient. At the exhibition all the woodwork must be covered over with non-inflammable asbestos paint. Drapery also must be dipped in chemicals and rendered uninflammable. Hydrants will be placed at 38 yards distance from each other, with a specially trained watchman knowing how to use them. The walls, the flooring, and all parts of the building will be constructed with a view, not merely to the prevention of fire, but so that they may be easily reached by the fire brigade, while any amount of emergency exits are to be provided. Similar precautions will be applied at the Arts International Exhibition of Rome, so that the utmost care and forethought have been displayed in the endeavour to prevent fire and such accidents as menace life and property. Exhibitors and visitors may rest assured that never before in the history of exhibitions have such carefully-thought-out proceedings been taken. These measures will serve as object lessons for the International Exhibition of Industry and Labour which is also to be held at Turin this year. The prevention of accidents and of trade diseases, and the compensation and medical treatment of the victims, constitute, we need hardly remark, an important phase of the medico-economical problems of the day. These questions will surely form a very practical side to the great International Sanitary Exhibition to be held at Dresden from May to October. Here there should be much to learn, for Germany excels in the hygiene of the factory and workshop, while in England progress is more marked in domestic hygiene. This seems indicated by the fact that the reduction effected during recent years in the prevalence of pulmonary tuberculosis is more evident among women in England and among men in Germany, for, generally speaking, despite modern increase in female labour, women stop at home and men go out to work. Doubtless we shall hear more about this question at the International Congress on Tuberculosis which meets at Rome from Sept. 24th to 30th. This is a very important Congress, and it assembles every three years. The last was held in 1908 at Washington, U.S.A., when some 6000 members were enrolled and some fairly good scientific work was done. The time that has elapsed has been fruitful, and we may confidently expect a valuable meeting of the leaders of thought.

Other international congresses convoked for this year, which will be of interest to medical men, comprise the Congress for the Blind which will meet at the end of February in Cairo. In May we have the Congress on Opium at the Hague; in June, the First Congress of the International Medical Association for the Prevention of War, at Paris, and certainly no one can have greater knowledge of the evils of war than the medical men who tend the wounded. There are also a number of international congresses on special branches of medical science, such as one on pathology, at Turin; on infant mortality, at Berlin; on alcoholism, at the Hague; on marine hygiene, at Genoa; and on dermatology, at Rome.

[1] See THE LANCET, August 20th, 1910, p. 589.

All these last-mentioned congresses, together with the very important Congress on Tuberculosis, meet in September. Certainly this is the most favourable month for such gatherings, but this great clash of congresses is unfortunate. Most specialists will feel obliged to attend their own particular meeting, and will be unable to be present at congresses less intimately connected with their work, whereby these congresses will lose that criticism from the outside which is of the greatest practical value, and which destroys any tendency to abuses of mutual admiration. There is still great need of better international organisation in these matters. This was forcibly stated when the International Association of the Medical Press met at Budapest the year before last. It was then even urged that perhaps the International Committee of the Medical Press might serve as the link of union between all the international congresses of the medical and allied sciences. No further movement has been taken in this direction, but no one can deny that more systematic arrangement is needed, and perhaps it might be obtained in this way.

British Spas from the International Point of View.

A STRONG contrast is noticeable between the large number of visitors, wholly or partly in search of health, from Great Britain to foreign spas and the very few foreigners who from like motives seek health or amusement, or both, in the spas and watering-places of this country. The reasons for this disparity are discussed and critically examined with clear insight by Dr. NEVILLE WOOD in an article on British Health Resorts for Foreign Invalids, which appeared in THE LANCET of Jan. 7th, p. 12. Dr. WOOD at once takes the broad ground that it is short-sighted policy, however patriotic it may seem, to exhaust our efforts in endeavours to keep the Briton from foreign countries, instead of demonstrating that British health resorts offer substantial benefits to foreign invalids also, and aiming thus to redress the adverse balance. A permanent commercial success in the long run is dependent rather on supplying the thing really needed than in endeavouring to palm off on him "something just as good." There are patients to whom Great Britain cannot supply the things needful, or at least desirable, for their greatest advantage. Such patients ought to go abroad, if they can afford it, where these desirables can be found, since the rapidity or completeness of their relation to health can be aided thereby. This is particularly the case in regard to certain requirements whose effect is of the psychic order. On the other hand, there are many others who can obtain all that is requisite for them in various resorts at home. But still further—and this forms the main thesis of Dr. WOOD'S article—there are many foreigners who would find at our English health-resorts, for precisely the same reason that should lead certain Britons abroad, advantages that they could not obtain at continental spas.

Attention is often centred too exclusively on the composition of the waters at foreign watering-places, yet the composition of the waters at various British resorts is closely similar to that of one or other of the well-known spas abroad. We have in England, Scotland, and Wales types of all the principal waters—muriated, sulphuretted, indifferent, earthy, alkaline sulphated, iron, strong salt, and brine. It cannot, therefore, be solely a matter of the waters that takes so many of our British patients abroad yet brings so few foreigners to our shores. There must be some other reason or reasons for the paucity of foreign health-seekers visiting us. The explanation is partly to be found, no doubt, in lack of knowledge on the part of those living on the continent concerning the nature and existence of the medicinal waters of Great Britain. To illustrate this point Dr. WOOD mentions that in a well-known German manual describing the health resorts of Europe there is no mention of any at all in England; and, again, that in a similar French publication, in its forty-ninth year of issue, whereas six pages are allotted to Spain, two are considered appropriate for this country, while various errors and omissions sufficiently indicate the absence of competent revision. This, however, is not entirely due to indifference on the part of foreigners, for Dr. WOOD found that the editor of one such work had vainly endeavoured to procure in London any authentic account of the British spas, while a request was made to Dr. WOOD for an addendum on British seaside resorts to the German translation of his work on "Spa Treatment," as well as an offer of a French translation of a work on British spas. There is considerable difference of opinion as to the precise manner in which "spa" treatment produces its beneficial effects. Some authorities maintain that the waters themselves have but little, if any, effect, and insist that the régime to which the patient is submitted is responsible for the improvement that ensues. Other physicians, again, maintain that the waters have a very definite action, although the exact explanation of the manner in which they act is by no means definite. To these factors must be added a third factor—namely, the psychic—and this in a large number of cases is a powerful one. In the continental resorts, especially those of Germany, the daily life of each patient is carefully laid down; every detail in the hotels and environment of the town is made subservient to therapeutic measures; there are certain outdoor amusements, such as tennis, and at a few of the spas golf, to be obtained, and at many social attractions are a powerful factor. The majority of the visitors, however, are there for treatment and not for amusement, and so the whole of a patient's attention is directed to the daily routine prescribed by the doctor. From a purely medical point of view this plan has advantages. Social amusements, such as dances and concerts, are indeed provided, but for the most part they are held outside the hotels, and terminate at a seasonable hour, so that invalids may find health without being disturbed by younger visitors, who seek only pleasure and no treatment. Another feature of most of the continental resorts is the complete manner in which the surrounding country is supplied with good restaurants or cafés, whereby daily afternoon exercise is encouraged. Added to these characteristics from the point of view of the British visitor is the change from one country to another, the complete difference in thought and surroundings adding to the psychic influence which we have already mentioned. It is here that Dr. WOOD makes a

strong point, for obviously foreign invalids at British resorts would experience the advantages to be derived from a complete change of scene, environment, and ideas that our invalids experience in European sojourn.

Dr. WOOD points out one advantage which the spas in this country enjoy over some of the more favoured continental spas—namely, the cooler climate of Britain, favouring, as it does, all kinds of outdoor exercise. He describes clearly the categories of foreign invalids for whom our spas are typically suitable, including those who thrive in a relatively cool climate and are able to walk well; those who in association with a complete change of environment derive benefit from baths that are neither very hot nor taken necessarily in close succession; and, of course, those whose maladies are held to be suitable for treatment by the principal waters in this country. Foreign physicians might learn much from a visit to the spas of this country. They would find the appliances excellent in every way, and would probably arrive at the conclusion insisted on by Dr. WOOD that continental health resorts should not be regarded as competing with British health resorts nor British with continental. In this connexion a suggestive remark is made by Dr. WOOD, who has found that when treating foreigners in London the sick-room temperature usually has to be kept from one to three degrees Centigrade higher than would be tolerable to English patients. Whether this be due to the longer and colder winters of continental stations having led to more efficient methods of domestic heating, or to the more uniform exposure of the body to a higher mean temperature during the warmer summers, it certainly suggests that foreign invalids may with advantage to themselves find in many of our winter stations convenient summer resorts at the time when they are largely deserted by Britons. British and continental health resorts might prove complementary to one another in this respect, as, probably, in many others.

Annotations.

"Ne quid nimis."

THE PSYCHOLOGY OF INTIMIDATION.

"No incident has of late years so impressed the Italian imagination," writes our Florence correspondent, "as the siege of the foreign anarchists in the City of London. The previous acts in the drama which culminated in Sidney-street were not without precedent abroad; the assassination of agents of the public force in the discharge of their duty is by no means unexampled, particularly south of the Alps. But the siege of the 'Fort Chabrol' in Paris, and that of the Via Ottaviano in Rome, sink into insignificance beside the blockade and bombardment of the tenement in the Whitechapel quarter, defended as it was with a desperation that taxed the resources of the 'centre of civilisation' to overcome. At first the foreign critic of the besieging party was inclined to censure, if not to ridicule, its members and equipment, but gradually, as the circumstances became known, the censure and ridicule gave place to genuine admiration of the combined forethought, promptitude, and effect with which the operations were carried out. Nothing short of the means employed could have availed the public force in the time at their disposal, and the result is being laid to heart at more than one Ministry of the Interior where the lesson it conveys may one day have to be repeated. Whether the scene of repression and capture be the interior of a garrison, or a lunatic asylum, or, as in the recent case, a criminally occupied tenement, the agencies employed must always be far in excess of those apparently sufficient. The impression on the individual or individuals aimed at must be produced that the means of capture and coercion make resistance hopeless. In lunatic asylums, especially south of the Alps, this, the psychological, element in dealing with the violently aggressive or recalcitrant subject has long been left out of account, with consequences all too deplorable both to the party coercing and the party coerced. No maniac is ever so furious as not to be impressed by the overwhelming forces antagonising him; the 'belva umana' shares the instinct of his animal counterpart in resigning himself to *force majeure*. Forty years ago the columns of THE LANCET were the arena of animated discussion on alleged deeds of violence perpetrated in lunatic asylums on patients whose recalcitrancy had goaded the *personnel* out of self-control, and cases were referred to in which the keeper had thrown the lunatic down and by travelling over his prostrate body on his knees had fractured one or more of the ribs and thus reduced the wretched man to impotency—with traumatic pleurisy as the result. Evidence was adduced that once deeds of violence, occurring rarely, if at all, in the British Isles, were by no means uncommon in France and Italy, where the *personnel* in charge of the inmates of asylums was so inadequate in number that loss of temper on the part of the keeper, goaded past endurance by refractory cases, drove him to the hideous practice of rib-breaking referred to. Such abuses having become known, the remedy of reinforcing the *personnel* and bringing it up to something like the proportion regarded as *de rigueur* in the British Isles was put in practice on the continent. The violent lunatic, overawed by the superior force antagonising him, ceased to be refractory, relapsed into sudden calm, and so spared the *personnel* the extra call on its patience, and himself the rough usage of an angry and provoked attendant. The 'psychology of intimidation,' thus recognised in treatment, now explains the lessened frequency of deeds of violence in the asylums of Southern Europe. The same influence must be used where degenerate man, exemplified in the violent criminal, the revolutionary desperado, the law-defying, law-subverting anarchist, manifests his baneful activities; he too must see the hopelessness of contending with overwhelming force."

CHOLERA IN MADEIRA.

WHILE the cholera epidemic at Madeira appears to be undoubtedly on the decline, the island is still practically isolated and postal communication is fitful. We have received a further letter from our special correspondent there, dated Dec. 31st, 1910, in which he says: "The official figures on the 30th of December show a total of 1245 cases and 360 deaths since the commencement of the epidemic. In Funchal itself 1 case was reported on the 30th inst., and the outlying parishes yielded 5 cases. The activity of the disease seems far spent, and the mortality, much lessened now, was never very heavy in percentage. No English person has been attacked, nor any of the Portuguese above the lowest stratum of their society. The medical work has been good, and illustrates emphatically the proficiency of our Portuguese colleagues in modern bacteriological and clinical methods." It is interesting to receive so excellent a report of the progressiveness of our Portuguese colleagues, and we hope that their efforts will now be vigorously seconded and their

requirements promptly met by the Portuguese Government, so that the island may not suffer too severely from the protracted lack of communications. One of the chief obstacles in all such epidemics is the hostility, through ignorance, of the lower classes, whereby efforts to improve the sanitary conditions and prevent the spread of disease are either secretly frustrated or lead to active rebellion. According to the *Times* correspondent, the latter condition has occurred in Madeira, the populace resisting the removal of cases for isolation, so that local troops had to be called out, and it has even been found necessary to supplement them by sending from Lisbon a battalion of the Sixth Infantry 600 strong.

THE IPECACUANHA TREATMENT OF AMŒBIC DYSENTERY AND ACUTE HEPATITIS.

SOME drugs, like some fashions in dress, have their day and are soon forgotten. Occasionally, however, a particular remedy is revived and comes again into favour. A recent instance of this is the employment of ipecacuanha in the treatment of amœbic dysentery and its formidable sequela acute hepatitis. For a long time this drug enjoyed a high reputation, being regarded almost as a specific by some authorities like MacLean. Gradually, however, the drug lost its reputation and sank into disuse, except, perhaps, with some practitioners in India who had proved its utility by long experience. The reasons for this waning of popularity of ipecacuanha with the profession are not easy to find. Perhaps some gave it up because there was no scientific explanation of its apparently specific action. Others may have had lack of success through administering it in insufficient doses or without observing the due precautions which are necessary. Some may have abandoned it finding that the drug lost its special properties when kept for any length of time in a hot climate, or it may have been employed in some of the bacillary forms of dysentery, in which its action appears not to be so potent. It is largely through the efforts of Major Leonard Rogers, professor of pathology in the Medical College, Calcutta, that ipecacuanha has recently been restored to favour. In his well-known work on fevers in the tropics he pointed out that the ipecacuanha treatment of amœbic hepatitis prevented the occurrence of suppurative hepatitis, or tropical liver abscess; that this complication could be entirely avoided if the treatment by ipecacuanha were employed. This, he suggested, might well be included in the list of maladies which recent research work has largely conquered. Deaths from hepatic abscess in the British army in India have, it appears, within the last three years been reduced by nearly two-thirds, and they are still decreasing. Further valuable evidence in support of Major Rogers's contentions has been recently forthcoming in the form of a series of papers read before the Medical Section of the Asiatic Society of Bengal by Colonel H. W. Pilgrim, I.M.S., surgeon-superintendent, Presidency General Hospital, Calcutta; Lieutenant-Colonel F. J. Drury, I.M.S., principal, Medical College, Calcutta; Lieutenant-Colonel J. T. Calvert, I.M.S., professor of materia medica, Medical College, Calcutta; Lieutenant-Colonel A. H. Nott, I.M.S., civil surgeon, Howrah; and Captain Greig, I.M.S. These papers were published in September last in the pages of our contemporary, the *Indian Medical Gazette*, and have now been issued in pamphlet form, containing also a brief summary of the discussion which followed the reading of the papers. The evidence of Colonel Pilgrim is specially convincing. He asserts that during the last three years all his cases of dysentery treated by ipecacuanha have done well, as also his cases of hepatitis. In not a single case of dysentery so treated has hepatitis occurred as a complication, and every patient coming under his care with hepatitis already established has, under ipecacuanha treatment, recovered without passing through any stage of suppuration. In these days when faith in drugs has grown weak the evidence brought forward by Major Rogers and supported by Colonel Pilgrim and his colleagues deserves the most serious attention of all who are called upon to treat amœbic dysentery and its sequelæ.

THE PROPOSED ESSEX MEMORIAL TO THE LATE KING.

THE Earl of Warwick, Lord Lieutenant of Essex, recently presided at a public meeting held in the county town to agree upon some form of memorial to the late King, it having been decided at a previous meeting that the memorial should be one having for its object the prevention and cure of consumption on "the Lyster system." Immediately the meeting commenced it was obvious that the conveners had no definite proposals to submit, relying upon the resolution passed at the previous meeting that an association should be formed with the object of encouraging local authorities to provide shelters, such as are known as "Dr. Lyster's shelters," for the isolation of consumptive patients during treatment. Dr. Thresh, the county medical officer of health, pointed out that if the proposed association limited its functions to merely encouraging authorities to provide shelters the movement could hardly be considered a memorial to the late King. He suggested that funds should be raised for providing a central institution for the reception of cases of phthisis, and that it should be organised on such a basis that the board of management would not be dependent upon private subscribers for its support. The suggestion did not meet with general approval, but no other feasible proposition was submitted. Certain of those present wished to have the Lyster system, and the Lyster system only, and appeared to be under the impression that it could be adopted without the provision of any institution. What the Lyster system is was not defined. Mr. A. E. Lyster, medical superintendent of the Alfred Boyd Memorial Sanatorium, and Poor-law medical officer for the Great Baddow portion of the Chelmsford Union, has popularised the use of canvas tents or shelters for the treatment of phthisis cases under his care, these shelters being erected in backyards or gardens. The construction of the shelters and the methods of treatment adopted should surely have been before the meeting, as well as any statistical evidence that has been adduced to show that treatment in these shelters produces better results than can be otherwise obtained. The county of Essex can hardly adopt as a memorial to the late King the maintenance of a therapeutic system which has never been accurately defined, but which appears to mean the provision of shelters in all parts of the county, combined with supervision by a medical man, who is to devote his whole time to visiting the shelters and seeing that they are correctly used and that the patients are properly treated. The proposal can never meet with general acceptance. Sanitary authorities and boards of guardians, having the necessary legal powers, may provide shelters, but it would be unreasonable to suppose that their medical officers would welcome the interference of anything like the association proposed. The very suggestion has caused members of the medical profession to hold aloof from the memorial movement. The committee appointed to consider the memorial includes a number of representative members of our profession, and it is to be hoped that they will serve and assist in devising some form of permanent memorial which shall be worthy of the county. If the prevention of tuberculosis and its cure are

to be the objects, some central institution must be provided, and its managers must not be bound to any particular system of treatment, but must be free to adopt any system which their medical advisers believe to be the best. The suggestion made by the county medical officer appears a feasible one, and if properly carried out would provide a memorial worthy of the name. Dr. Thresh pointed out that upon a sufficient area of land a good administrative block could be erected, capable of further extension if and when desired, and shelters could be provided as required. Temporar canvas shelters may, or may not, be the best for institutional purposes, but it would be easy to compare them with the permanent accommodation provided at the Benenden Sanatorium, where the cost per bed has not exceeded £100, exclusive of land. Canvas shelters may be economical and particularly useful for home treatment, but it does not follow that they are equally economical for institutions, since the cost of maintenance and administration must be considerably greater with such comparatively flimsy structures than with shelters or ward blocks of a more substantial character.

INFANTILE KALA-AZAR IN TUNIS.

FOR some time past the workers at the Pasteur Institute of Tunis have been engaged in studying a peculiar and special infection occurring in the children of that district. Already 20 cases are on record, and an interesting *résumé* of the chief facts at present discovered in regard to it is given by M. Charles Nicolle, the director of the Pasteur Institute of Tunis, in a communication [1] made to the Congress of Medicine at Trapani. As a rule, the disease commences during the course of the second year; occasionally it attacks children of 3, 4, or even 6 years, but this is rare. So far it has only been observed in children. All races, both European and native, living in Tunis, appear liable to its incidence, but it is more common among Italians. Its onset is insidious, and at this stage diagnosis is difficult, but when the disease is well established it presents somewhat characteristic symptoms. There is extreme anæmia, emaciation, marked enlargement of the spleen, and to a less degree of the liver, fugitive œdema, a very irregular temperature, definite acceleration of the pulse-rate, digestive disturbance, and mononuclear leucocytosis. Hæmorrhages are not infrequent and a bullous eruption may occur. In order to establish the diagnosis and to distinguish the disease from other conditions leading to enlargement of the spleen, which are not uncommon in children in Tunis, it is necessary to demonstrate the presence of the parasite. This is readily done by examining the fluid obtained by puncture of the liver or the spleen. The parasite is a protozoon of the genus Leishmania, identical in its morphological characters with that found in kala-azar in India, and also with that of Delhi boil, except that it is slightly smaller. Post mortem the only changes found are the enlargement of the liver and spleen and the red colour of the bone marrow. The parasites occur in enormous numbers in the spleen, liver, and bone marrow, less commonly in other organs. They are sometimes free, at others enclosed in the large mononuclear leucocytes. The general characters of the disease appear to be identical with those of the Indian kala-azar, but since it apparently occurs only in children, M. Nicolle and his co-workers have applied the name of Leishmania infantum to the parasite to distinguish it from the Leishmania donovani of Indian kala-azar and Leishmania tropica of Delhi boil. The protozoon of infantile kala-azar can be readily cultivated upon the medium of Novy-MacNeal, and the cultures can be repeated indefinitely. The disease can be inoculated into the dog or monkey, but in other animals only a temporary infection results, or they may be completely refractory. In the dog the infection may last for several months and then undergo spontaneous cure, or it may lead to cachexia and death. In the monkey the course of the affection is more closely similar to that in the human subject. Since it appears that the disease may occur spontaneously in dogs, M. Nicolle suggests that these animals may be the cause of the human cases. The disease appears not to be confined to Tunis, since cases have been observed in Italy, Malta, and Portugal (Lisbon). In discussing the possibility of the identity of the infantile disease of Tunis with the Indian kala-azar, M. Nicolle is of opinion that further observations upon the latter disease are necessary. Notably he recommends that attempts shall be made to grow the Leishmania donovani upon the Novy-MacNeal medium, and attempts made to inoculate dogs from these cultures. The disease has so far proved to be of uniformly bad prognosis, and no treatment, in spite of numerous trials, has proved of any value.

[1] Archives de l'Institut Pasteur de Tunis, Part 3, 1910, p. 109.

THE WEATHER OF DECEMBER.

THE weather of December was very similar to that of November in its rainfall over the United Kingdom, or at all events the greater portion of it, but very different in its temperature. While November will rank as one of the coldest eleventh months on record, last month will take its place among the very mildest of Decembers. During the first three weeks the warmth ranged from between 4° and 7° above the average in all parts of the country, and the last week, although much less warm, was still mild for the time of year over a large part of the kingdom. Frost was rare even on the ground, and some localities in the south-west and west were entirely exempt. Even in London the screened thermometer only recorded frost on three nights—the 28th, 29th, and 31st—and then it was very slight. The mean temperature of the nights in the metropolis was about 6° above the average. The temperature of the afternoon was scarcely so abnormal, but the mean was as much as 4½° above that of an average December. The temperature of December may be lower than that of November, and at the same time in excess of its average, but in the present instance December was not only relatively but actually milder than November. In London the mean maximum temperature (49°) was 3° higher than the corresponding figure in November, and the mean minimum (41°) as much as 8° higher. Shade readings of 50° or a little above occurred on more than half the days over a large part of these islands; in London there were 18 days with that unusual winter mildness, and many more with readings between 46° and 49°. On the south-west coast the temperature was, of course, higher than in London; at Torquay the mean maximum was 50½° and the mean minimum only 8° lower. As might be expected from the high thermometer the wind was almost always in the equatorial quarter, the only occasions when the contrary was the case being the north-westerly to northerly current which sprang up in the rear of some of the numerous depressions as they travelled away to the continent. And as it is almost impossible to experience a mild December without the presence of a series of depressions over these islands or in their immediate neighbourhood to the northward it is not at all surprising that the month was very wet. The serious inundations arising from the heavy and almost daily rains, following a month nearly as wet, were responsible for much damage to property, but the flooded area was not nearly so extensive as it has been on more than one occasion during the past 20 years, especially in the valley of the Thames, where particular precautions were successfully

taken. All parts of England, with the exception of a few isolated localities, experienced rain much more frequently than usual, and the aggregate fall was greatly in excess of the normal. The last week, however, was comparatively dry, as well as more sunny, than the three preceding. In London (Westminster) there were 23 days on which more or less rain was registered, and the total fall—3·08 inches—was 56 per cent. more than the average for the month. In several parts of Scotland and Ireland there was less rain than during an average December; at Leith and on the north-west coast of Ireland the fall was only about 48 per cent. of the normal. The rainfall of the whole year was not excessive over the kingdom generally, although the number of days with rain was very high. In London (St. James's Park) the total was 23·37 inches, or only 96 per cent. of the average. On the south coast of Kent, on the other hand, the aggregate was very heavy, amounting at Dungeness to 35·51 inches, or 56 per cent. more than the average. In the metropolis there were 201 days with at least 0·01 inch of rain, and this number is 36 in excess of the normal. December on the Riviera was not marked by any special feature, except that rain was more frequent than usual. During the first fortnight or so the temperature in the shade during the afternoons was about 52°. Subsequently the conditions were both colder and drier. Italy was warmer than the Riviera until near the end of the month, and experienced several spells of rain.

THE HISTOLOGICAL EVIDENCE THAT TOXINS REACH THE SPINAL CORD VIA THE SPINAL ROOTS.

AN interesting and important communication from Dr. David Orr of the County Asylum, Prestwich, and Dr. R. G. Rows of the County Asylum, Lancaster, is published in the *Review of Neurology and Psychiatry* for December last, containing an account of further experimental work on the question of toxic invasion of the central nervous system. In 1907 these observers demonstrated in a most conclusive manner that the ascending lymph stream in nerves is a path along which infection of the brain or cord can readily occur, thus establishing the reality of what is known as ascending neuritis. Our comparative ignorance, however, of the whole lymphatic system of the brain and cord, and, for that matter, of nerve roots and trunks, has led to some under-estimation of its significance for the development of certain nervous diseases, and we feel sure therefore that a consideration of the facts presented in this paper cannot fail to convince the reader tha the problems connected with the pathogenesis of many nervous conditions are on a fair way towards being solved. Poliomyelitis acuta is an acute inflammatory process; general paralysis of the insane is of a chronic inflammatory nature; but in each instance the pathological changes in the vessels and supporting tissues are not comparable with the lesions resulting from a general blood infection. Study of the cerebro-spinal fluid and of the lymph currents in the central nervous system is more likely to be of profit than an examination of the constituents of the blood. In the present series of experiments the authors placed a sealed celloidin capsule containing a broth culture of an organism under the gluteus muscle of rabbits and dogs in contact with the sciatic nerve. Three separate organisms were employed—viz., staphylococcus aureus, a diphtheroid bacillus from a case of general paralysis, and the bacillus botulinus. The histological changes induced by the toxins in the nerve were similar in each instance—a most important observation, confirming the non-specificity of the histological characters of toxi-infections. A very definite reaction was found in the whole course of the sciatic nerve, through the posterior root ganglia, and along both anterior and posterior spinal roots. The toxins induce inflammatory phenomena in the fixed tissues, such as the epineurium and the perineurium, and in the veins and capillaries both inside and outside the nerve; it is instructive to note that no reaction was observed in connexion with the arterioles. Away from the immediate neighbourhood of the toxic focus the severity of the reaction diminishes, and the character of the cell reaction changes. Thus, where the phenomena are acutest there are many proliferating fibroblasts; the further we go from this area the more plasma cells do we find, so that plasma cell formation becomes the most prominent indication of irritation in those regions where there is reason to presume that the toxin has been to a great extent neutralised by the reaction of the tissues. The hæmatogenous elements do not participate in the inflammation. The striking similarity between the perivascular changes produced experimentally by the authors and those that are so familiar in connexion with general paralysis suggests that the toxin of the latter condition is to be found in the lymphatic system. Due weight must therefore be attached to the concluding statement of the paper: "There is a great deal of evidence to show that the 'bacillus paralyticans' of Robertson and McCrae is a pathogenetic factor of much importance, but as we have obtained exactly the same morbid phenomena with two other organisms, we cannot accept the specificity attached to it."

DISINFECTING IN RURAL DISTRICTS OF FRANCE.

FOR many years now in the large towns of France disinfecting stations have been established that are models of skilful organisation and good management. The practice of disinfection in sparsely populated villages and rural districts is, however, in quite a different position. The more scattered the population the heavier the cost of disinfection and the smaller the local revenues to meet this expenditure. The great French Public Health Act of Feb. 15th, 1902, was such a radical measure that evidently time had to be allowed for its application, but the results are now beginning to make themselves felt. Among these there has been in several departments a determined effort to grapple with the difficulties of disinfection in rural districts. We have before us a very complete and detailed account of this service as established in the department of the Seine-Inférieure, by Dr. Charles Ott, head of the sanitary service, and M. Martial Basilaire, Chief of Division of the Prefecture of the Seine-Inférieure. The principal towns of this department are Rouen, Havre, and Dieppe, and these having their own *Bureau d'Hygiène* are, of course, not under consideration. The rural service extends over the remaining 757 communes, comprising a few minor towns and nearly 600,000 inhabitants. There are two sorts of disinfection—the "shallow" or surface, and the "deep" or thorough, if we may translate literally the French words. But though these terms have been consecrated by extensive use, the authors of the report mentioned prefer to speak of disinfection during illness and disinfection after illness. The one and the other must, according to the rules laid down, be supplied at the latest within six hours of the receipt of the orders to proceed. Therefore the posts of disinfectors must be so scattered that the most distant and inaccessible dwelling can be reached from one of them within six hours. For this purpose the "surface" disinfector travels on a bicycle, as he need only carry some disinfectants with him. With these he makes a solution when he arrives, and shows those who attend on the patient how to soak the soiled linen in it, and generally how to keep the place clean so as

to minimise the danger of spreading the disease. Afterwards a sanitary motor-car brings a disinfecting apparatus that can be pulled to pieces, packed in a small space, and set up when the house is reached. In this case, objects to be disinfected are exposed for two hours to the action of formaldehyde vapour. Then there are two spraying apparatus for the walls and floors within the house; a small stove for disinfecting clothes, overalls for the disinfectors to wear, and airtight sacks in which bedding and other objects can be placed and carried away. The disinfectors are paid regular salaries and no casual labour is employed for this work. Minor disinfecting posts have been established in the chief towns of the 13 *arrondissements* that group together the 757 rural communes of the department of the Seine-Inférieure. These serve for the disinfectors who render the first aid and travel on bicycles. The sanitary motor cars are best kept in a large town, and Rouen is the most central town. In this matter we are glad to note that the position of the medical adviser has not been overlooked. By law he is compelled to notify all cases of infectious diseases, but that is all. The local authorities felt, however, that, especially by reason of the considerable moral influence he can, as a rule, exercise over his patients, the medical man might very effectively aid in the work of disinfection. First, he might prepare the patient and his attendants for the arrival of the disinfectors, then advise them to carry out strictly the instructions given, disarm all spirit of resistance, and ensure the successful accomplishment of the disinfector's task. Consequently the authorities have resolved to pay a fee of 2 francs for every notification given, accompanied by the offer to help in the sense indicated above. It is a great point that the principle of payment for such service should now be recognised in France; and altogether the organisation of disinfection in these rural districts seems to be very carefully and fully planned.

PHARMACEUTICAL EDUCATION.

IN pursuance of the powers vested in it by Section IV. of the Poisons and Pharmacy Act, 1908, the council of the Pharmaceutical Society contemplates the framing of by-laws requiring candidates for the qualifying examination in pharmacy to undergo a definite course of tuition. It is also proposed to divide the examination into two parts, and at a meeting on Jan. 4th the council had before it a scheme, covering both objects, which had been drafted by the Examination and Education Committee. This suggested scheme, which is to be submitted to local pharmaceutical associations and schools and colleges of pharmacy with the object of eliciting expressions of opinion concerning it, embodies proposals which, if put into effect, would alter very considerably the Pharmaceutical Society's requirements as to education and examination. It proposes a division of the qualifying examination into two parts—final and intermediate. A candidate for the intermediate examination would be required to produce evidence that subsequent to passing the preliminary examination and being registered as a student he had attended lectures with regularity and had performed the accompanying work in the class and in the laboratory, in a teaching institution approved by the council. The lectures and work specified are as follows: not less than 50 lectures in botany, 25 hours' work in practical botany, 100 lectures in chemistry, 300 hours' work in practical chemistry, and 25 lectures in physics. Before entering for the final examination he would be required to produce evidence that he had been engaged for three years after registration as a student, under the supervision of a registered chemist, in the ordinary work of pharmacy, and that he had attended not less than 60 lectures and demonstrations in materia medica, 30 lectures in pharmacy, and 20 lectures in dispensing and prescription Latin, and had done 200 hours' work in practical pharmacy and 100 hours' work in practical dispensing. It is not proposed to extend the scope of the syllabus or to raise the standard of the examination. At the same meeting of the council a report from the Parliamentary and General Purposes Committee was received and adopted to the effect that the Privy Council be urged to authorise an investigation into the conditions under which the storage, compounding, and dispensing of medicines and their distribution are carried on in surgeries and dispensaries of medical practitioners and in similar establishments in Great Britain.

THE DIAGNOSIS AND NOTIFICATION OF YELLOW FEVER.

Sir Rubert W. Boyce has stated[1] that it seemed strange that there should be obstacles in the way of the diagnosis and notification of yellow fever, and added that in all the outbreaks that he had had to investigate he had encountered them. It is not surprising that this has aroused considerable attention, and at the last meeting of the Society of Tropical Medicine and Hygiene on Dec. 16th last a medical man from Trinidad commented on what was called the "to some extent justifiable desire of the authorities to prevent notification of yellow fever cases," and deplored the fact that "the name of Trinidad undoubtedly and deservedly stinks in the nostrils of its neighbours on account of its suppression of damaging information." Another opinion communicated to the meeting by a medical man from the Gold Coast was that Sir Rubert Boyce had made a very grave assertion in declaring that there had been a universal conspiracy to deny the presence of yellow fever. "What possible reason," asked this gentleman from the Gold Coast, "could medical officers have for cloaking the disease?" The executive authority, he continued, must be slow to place a colony under quarantine, but he could not imagine that it had ever refused to do so once satisfied by the medical department of the existence of yellow fever. Perhaps the most reasonable view of the matter was put forward by Dr. C. F. Harford, physician to the Church Missionary Society and principal of Livingstone College, who observed that the facts of the case might be explained without attributing to the medical profession either an attempt to conceal unpalatable truths or ignorance in diagnosis; and until this was definitely proved it was only just to give them the benefit of the doubt, especially when it was remembered that there was no absolute scientific test of the diagnosis of yellow fever; in fact, there was every excuse for failure to recognise the disease where it was not believed to be endemic unless several characteristic cases were met with at the same time. Most writers on yellow fever emphasise the difficulties connected with its diagnosis, the symptoms being subject to considerable variations. Some cases, for example, may be of the fulminating sort and terminate fatally within 36 hours; while in other instances the manifestations of the malady may be so mild that the patients are able to go about all the time and carry on their usual avocations. Some, indeed, of the mild abortive cases present no definite clinical characters which can distinguish them from an ordinary febricula. Unfortunately, for the present, bacteriology is unable to lend assistance in establishing the diagnosis of yellow fever. It is therefore small wonder that medical men at times fail to recognise the disease, more especially at the beginning of an outbreak. When the well-marked symptoms, described in the text-books, develop the diagnosis becomes less difficult, and the disease cannot then be overlooked. Sir Rubert Boyce's views on the endemicity of yellow fever in West Africa are both valuable and interesting;

[1] See THE LANCET, Nov. 26th, 1910, p. 1552.

and his conclusions, though somewhat sweeping, may be perfectly correct. But it cannot be said that he has submitted proofs of a sufficiently convincing kind to lead to the immediate and general acceptance of his opinions. Further investigation, with the collection of additional evidence, is needed before it can be unhesitatingly asserted that yellow fever is now, and has for a long period been, endemic in West Africa. The debate on the subject will be continued at the meeting of the Society of Tropical Medicine and Hygiene on Jan. 20th next.

A VIEW OF THE HOUSING AND TOWN PLANNING ACT.[1]

Dr. Thresh has made, we believe, the first report under the conditions imposed on the rural district councils by the Housing and Town Planning Act, and takes therein the occasion to make some pertinent remarks on the working out of that Act. He lays down various conditions as essential to a healthy house and discusses them in detail. With regard to the inspections ordered by the Local Government Board these are so much more exhaustive than heretofore that if the medical officer of health is to make them it will be necessary to appoint to that office only one who can give his entire time to his duties, and there will be plenty to keep him fully employed; if, on the other hand, the inspector is to add this duty to those already incumbent on him before the passage of the Act it will be necessary for him to have assistance in the enormous amount of clerical work involved. The author's experience leads him to the conclusion that the Act will not only benefit the working classes by greatly improving housing conditions in all rural districts, but by raising the sanitary standard will benefit all classes of residents also.

ENLARGEMENT OF THE SUPERFICIAL THORACIC GLANDS AS A SIGN OF PULMONARY TUBERCULOSIS.

MANY clinicians have called attention to an enlargement of the lymphatic glands which lie beneath the skin of the thorax in relation to the fourth and fifth intercostal space in the mid-axillary line, and which can be felt and sometimes seen in a certain percentage of cases of pulmonary and pleural tuberculosis. E. v. Zebrowski[2] has recently brought forward figures to show that in about 20 per cent. of adults afflicted with this disease an enlargement in these glands can be detected. W. Schulze[3] confirms this observation, though the percentage was somewhat lower in his cases, but at the same time he publishes notes of a case which seem to show that this cannot be relied on as a sign of tuberculosis as opposed to other pulmonary disorders. The patient, a boy aged 7 years, came under treatment for pyrexia with vomiting. The pulse-rate was 160 per minute, the respiration-rate 48, and the temperature over 105° F. By the usual methods of examination no physical signs of pulmonary disease were found, but skiagraphy discovered a shadow over the whole right pulmonary area, especially in the neighbourhood of the upper lobe. For three weeks the fever followed an irregularly hectic course, but the tuberculin test, applied by Moro's method, was negative. The axillary and inguinal glands were enlarged, and there was a gland about the size of a pea in the fifth right intercostal space near the mid-axillary line. Under local anæsthesia this was excised; half was examined histologically and the other half injected into the peritoneal cavity of a guinea-pig, but by neither means was any evidence of tuberculosis forthcoming. After remaining above normal for five weeks the temperature gradually fell, the other symptoms disappeared, and the X ray shadow was no longer to be seen. The case must therefore be regarded, in Schulze's opinion, as one of central pneumonia running an atypical course, though at first it seemed likely to prove tuberculous; and he brings it forward as evidence that tuberculosis is not the only infection of the lung which leads to enlargement of the lymph glands beneath the skin of the thorax.

[1] Report of the Housing of the Working Classes in Ingatestone. By John C. Thresh, M.D. Vict. Chelmsford: John Dutton. 1910.
[2] Deutsche Medizinische Wochenschrift, 1910, No. 28.
[3] Münchener Medizinische Wochenschrift, 1910, No. 51.

WE publish on p. 77 of this issue of THE LANCET the address with which Dr. T. B. Hyslop, late resident physician at Bethlem Hospital and President of the Society for the Study of Inebriety, opened a debate in that society on Tuesday last on the Influence of Parental Alcoholism on the Physique and Ability of Offspring. No representative of the Eugenics Society was present at the meeting, a fact commented upon by Sir Victor Horsley in promising to draw attention in the immediate future to Professor Karl Pearson's startling conclusions. Mrs. Scharlieb, Dr. C. W. Saleeby, Dr. W. C. Sullivan, Dr. E. Claude Taylor, Canon Horsley, and Mr. Theodore Neild also took part in the discussion.

THE Hunterian Oration of the Royal College of Surgeons of England will be delivered by Mr. Edmund Owen in the theatre of the College on Tuesday, Feb. 14th, at 4 P.M. The President and Council will give a dinner at the College the same evening.

THE NEW GERMAN PHARMACOPŒIA.

THE new edition of the German Pharmacopœia—the fifth since the creation of the empire—has now been issued, and in many respects it presents an entire departure from the usual attitude adopted by its authors. It may be mentioned that now this work is elaborated by a special Commission of the Imperial Sanitary Council, composed of 26 members, including Government medical officers of health representing the more important German states, professors of pharmaceutical chemistry, botany, chemistry and pharmacognosy, and a number of pharmacists in business. In addition to the above, representatives of clinical medicine, veterinary surgery, bacteriology, the Patent Office, the War Office, and others were called upon to attend the meetings of the Commission, and in order to have a true picture of the materia medica at present in use in prescription work a circular was issued by the governments to 125 of the larger town and country pharmacies asking for information as to the frequency with which official preparations occurred on prescriptions, and also concerning older non-official articles. It must be remembered that in Germany practitioners are forbidden to dispense their own prescriptions, hence this step to establish the degree of popularity of various remedies.

The new Pharmacopœia has been most thoroughly revised, and its chemical as well as microscopical methods of analysis of chemicals and vegetable drugs speak most favourably for the high standard of scientific training of the German pharmacist. The microscopic analysis of drugs has been most minutely described, the dimensions of cells being indicated in micro-millimetres, and an estimation of the active principles is prescribed in almost every instance in the case of the more important drugs. It is interesting to note that the Commission distinctly states in the preface to the volume that it had been decided to make this book more useful to the physician by the addition of a certain amount of information not otherwise incorporated in the Pharmacopœia. This departure from the traditions of the *Pharmacopœia Germanica* has been effected by the inclusion of references to the content of active ingredients in each official substance, and of the impurities to be revealed by the application of each prescribed test, so that the reader can at a glance judge of the strength and purity of any given substance. Thus, we read that sodium bromide contains 94·3 per cent. of NaBr, or 73·2 per cent. of bromine; atoxyl, 24·1 to 24·6 per cent. of arsenic; iron and quinine citrate, 9 to 10 per cent.

quinine and 21 per cent. iron; sodium carbonate contains at least 37·1 per cent. of anhydrous Na_2CO_3; cinchona bark at least 6·5 per cent. of quinine and cinchonidine; while in the case of nux vomica not the content of strychnine alone is assayed for, but a mixture of the two principal alkaloids—strychnine and brucine.

Among the changes introduced in the formulæ of galenical preparations we note the use of arachis oil instead of olive oil in a number of liniments, and of soft paraffin in the place of paraffin ointment in several ointments. The additions to the present edition constitute no less than one-eighth of the total 671 monographs. Considerable surprise has been caused by the method adopted with regard to the inclusion of the newer synthetic remedies, of which 20 have been included. It has hitherto been the custom of the authors to totally ignore the protected name of such preparations, and therefore the full chemical designations were adopted in the last edition—viz., "pyrazolonum phenyldimethylicum salicylicum" for salipyrin. It has been recognised that such a course is in many instances not consistent with practical everyday requirements, and therefore in the case of exceptionally long chemical names (such as is the case with novocaine, pyramidon, and stovaine) the registered appellation has been adopted as the title, followed by the scientific name; and in other cases—e.g., acidum acetylosalicylicum, acid. diæthylbarbituricum, æthylmorphinum hydrochloricum—where the chemical name is not too unwieldy, the latter figures as the title, followed by the registered designation as a sub-title (in the above examples: aspirin, veronal, dionin). It is, however, distinctly stated that the question of dispensing such preparations must take place in accordance with the provisions of the law on registered trade marks; both protected product and its "substitute" must correspond to the tests laid down in the Pharmacopœia. We see that in this instance the authorities—the volume receives the sanction of the Federal Council and is enforced by the Imperial Chancellor—have not hesitated to dictate to the manufacturers of protected products included in the Pharmacopœia the degree of purity that the latter must possess, a step that is bound to call forth considerable comment.

The following potent drugs have been added to the Pharmacopœia with the stated maximum doses. It may be remarked that the latter also apply to the dispensing of the substance in the shape of eye lotions, hypodermic injections, clysters, suppositories, and inhalations:—

	Maximum single dose.	Maximum amount during 24 hours.
Arsacetin	3 grains.	—
Atoxyl	3 ,,	—
Dionin	¼ grain.	1½ grains.
Duotal	15 grains.	45 ,,
Heroin hydrochloride	1-12 grain.	¼ grain.
Lactophenin...	8 grains.	45 grains.
Pyramidon	8 ,,	24 ,,
Scopolamine hydrobromide ...	1-120 grain.	1-40 grain.
Suprarenin hydrochloride ...	1-64 ,,	—
Theophylline	8 grains.	24 grains.
Urotropin	15 ,,	45 ,,
Veronal	12 ,,	24 ,,

In addition to the above preparations we note the inclusion, among others, of aspirin, ethyl chloride, anæsthesin, colloidal silver (collargol), sodium nitrite, physiological saline solution (to be dispensed sterilised), protargol, cortex simarubæ, eucaine B., liq. aluminii acetico-tartarici, novocaine, ol. arachis., ol. sesami, pasta zinci salicylata, medicated soaps, antitetanic serum, stovaine, tannalbin, tannigen, tannoform, tropacocaine hydrochloride, ung. argent. colloïdalis.

Among the articles which have been dismissed figure: acid. hydrobrom., aqua picis, fol. jaborandi, fol. nicotianæ, fruct. papaveris immaturi, herba conii, lithium salicylicum, vin. colchici, and vin. ipecacuanhæ.

An interesting addition to the present edition has been made in the inclusion among the appendices of a list of formulæ and reagents for preparing tests employed in biological analyses. These include the reagents used in demonstrating the presence of pathological substances in urine, such as albumin, sugar, pentoses, acetone, aceto-acetic acid, urobilin, urobilinogen, bile pigments, indican, iodine, salicylic acid, blood, and for applying the diazo reaction; further, the reagents for testing stomach contents and blood; stains for bacteriological work; and, lastly, a description of cedar oil, canada balsam, and xylol for use as microscopic mounts.

In the article on suprarenin hydrochloride, which bears the chemical name o-dioxyphenyl-ethanolmethylamino-hydrochloride, it is described as the hydrochloride of the vaso-constrictor substance of the suprarenal gland, and is either prepared from the latter or obtained synthetically; it is marketed under the names adrenalin, paranephrin, epinephrin, and epirenan in the shape of sterilised solutions to which a preservative has been added. It is forbidden to dispense solutions which are coloured red or have become cloudy.

In view of the expected new edition of the British Pharmacopœia the above work should prove of special interest to those entrusted with the elaboration of our Imperial Pharmacopœia. It only remains to be seen to what extent the stringent scientific and practical requirements of the German volume are compatible with actual conditions.

MEASURES FOR THE REDUCTION OF INFANTILE MORTALITY IN BAVARIA.

IN a Bavarian Ministerial Circular, dated Dec. 9th, 1907, certain general principles were outlined for the control of infantile mortality. The Central Department for Infant Care (Imperial Health Office of Germany), as the result of accumulated experience, has partly reconstructed and partly reaffirmed these principles, and in an order of the Minister of State for Internal Affairs, dated Jan. 20th, 1910, and addressed to the Royal Government, officers for home affairs, district and parochial boards, and district physicians, the department has suggested suitable rules and regulations. It has been found impossible to go into detail upon every matter owing to the differences caused by local conditions, the amount of money at the disposal of the boards, the density of population, facilities for transit, economic conditions, and method of livelihood of the people, &c., but certain guiding principles have been laid down. In purely rural districts it is recommended that the work of infant care, in conjunction with the conscientious superintendence of the "boarding-out system," should be confined to careful arrangement for guardianship, and the carrying out of enactments for the protection of mothers, supplemented by continuous popular instruction both verbal and written, a work in which clergymen, physicians, and midwives should be induced to take an active part. In large communities where various associations take a share in the work of infant protection the creation of a local central department is recommended which would coördinate separate efforts. The business of such a "care association" should be to support poor lying-in mothers and to seek out and advise pregnant single women, to establish dispensaries under medical supervision and in connexion with them, milk depôts, and crèches where women could go to suckle their children.

Infant care is considered under the headings "Unrestricted" and "Restricted," the latter referring to measures and institutions for the benefit of children whose parents are not necessitous. The institutions are to be regarded as belonging to the class of working-men's benefit institutions, and should be worked in conjunction with other schemes which are carried on for the benefit of the local working-class population, whether voluntary or municipal. Such agencies are philanthropic guilds, municipalities, and the larger manufactories. Contributions for their working are provided out of State funds for infant care or the surplus of State insurance societies.

Instruction.

The spread of the knowledge of rational infant care—e.g., the necessity of breast-feeding wherever possible and what constitutes a suitable food for infants that are artificially fed—is regarded as at least a collateral aim in all establishments for infant care, and to this end leaflets on infant care are to be distributed among the people by the registrars of births, midwives, foundling nurses, and by physicians at lectures, crèches, and advisory dispensaries. In this matter assistance is given by the Women's Red Cross Association of Bavaria. In addition

to these a special periodical is edited and sold by the central department, containing popular and scientific articles, from which the local press are desired to print extracts so as to obtain for them a wider publicity than would otherwise be assured; and occasion is taken to recommend approved books on infant care and rearing to mothers. Lectures by physicians and properly trained women are also given, and it is satisfactory to note that lectures on artificial feeding are not to be given except by medical men. This is only one instance of that prudence and subordination to expert medical opinion and advice which characterises all the measures taken by the Bavarian Government for the prevention of infantile mortality.

Consultation Centres, Contributions, and Premiums.

Consultation centres are established under the control of physicians, where mothers will obtain advice, free of charge, on the care of healthy and sick infants. Infants are superintended outside the consultation centres in small districts by members of the Women's Guild, and in larger districts by paid female health visitors. Premiums for breast-feeding are paid to mothers to compensate them for loss of working time entailed by breast-feeding, and midwives are also given rewards who show good work in inducing mothers to feed their infants at the breast. The care of the finances of these consultation centres, and especially the granting of breast-feeding premiums, is in the hands of an administrative committee of which the superintending physician must be a member. Contributions are to be given only by the order and with the consent of the district physician, and where possible in the consultation rooms. In cases where the granting of support is in the hands of a committee which does not include the physician, his recommendation of applicants is necessary, and he is to be made acquainted with the grounds of refusal in any case recommended by him which is refused by the committee. As a rule, inquiries as to the worthiness of the parent to receive support are not made, for the aim is to save the infant's life. On the same grounds, no distinction is made between legitimate and illegitimate children. In certain cases, as, for example, when the mother is an alcoholic, premiums are given in kind instead of in coin. Necessary inquiries as to the means of parents, and especially of single mothers, are conducted with forbearance, and there are no fixed limits of income, disentitling applicants to support, discretion in these matters being allowed the physician.

In connexion with consultation centres are milk kitchens, which are intended to supply infants with milk as near in composition as possible to mother's milk. They are, of course, under medical supervision, and nourishment for sucklings is given on any physician's prescription, fixed formulæ being discouraged, as each individual case may require a different prescription. Milk is, as a rule, only given upon payment, which in the case of needy parents is made by parish authorities or philanthropic agencies upon a ticket system. As a rule, the cost of these kitchens is covered by the receipts, but if there is a deficit to be made up it is supplied from public sources.

Restricted Infant Care.

Crèches take in children for payment, during the first three years of life, without consideration of religion or parentage. The payment demanded is not to exceed the cost of nourishment. The children are under the charge of nurses, one nurse to six infants or 20 older children. For the housework servants are engaged. Special attention is paid to the quality and composition of the food for the children, and opportunity is given to mothers to breast-feed in the crèche and special terms are accorded to such mothers. Artificial feeding of infants is only to be undertaken upon a physician's prescription and certificate, and arrangements are to be made for supplying meals to artificially fed children at their homes during Sundays and holidays. Complete precautions against the introduction and spread of infectious diseases are taken and isolation and observation wards provided.

Hospitals and Homes.

These institutions receive and care for infants whose life is in danger through want or illness, and specially receive abandoned children. In urgent cases children are taken in without consideration of religion or parentage, but in other cases the identity of the child is to be ascertained and payment made beforehand. Arrangements exist for taking in a limited number of breast-feeding mothers, so as to have a supply of breast milk for the infants in case of need. The hospitals are also used as places for the education of nurses for infants and children.

Other measures directed to the same end—the prevention of infantile mortality—are concerned with the protection and assistance of women during the later months of pregnancy and during and after confinement. In this matter the aid of philanthropic associations and provident benefit societies is given, and lying-in hospitals and after-care homes have been established. The care of abandoned and illegimate children is undertaken by guardianship courts exercising their powers under recent enactments, who provide suitable foster-parents for the children and care for their future.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Newcastle.—Typhus fever is now so rare in this country that the occasional outbreaks which occur are of considerable interest. Defective diagnosis is nearly always responsible for those outbreaks, and in the absence of any typhus fever for educational purposes the difficulty of diagnosis is obviously very great. In this instance there were removed to the isolation hospital at the end of November, 1909, five cases of what were supposed to be enteric fever, but which on admission were found to be suffering from typhus fever. Later the remaining member of the family—the mother—was removed suffering from the same disease. These cases were thought to have been infected indirectly from a case of supposed double pneumonia, and a young woman who nursed the case was afterwards sent to the hospital with scarlet fever. But in addition to what was supposed to be a scarlet fever eruption the girl showed indefinite symptoms which were believed to have been those of typhus fever, and on Dec. 16th a sister of this young woman was found recovering from supposed pneumonia, but which was probably typhus fever. Subsequently, and notwithstanding the disinfection of the house and effects, the remainder of the family were found to be ill with typhus fever on Jan. 3rd. There were 30 contacts connected with the above cases who were kept under observation, but none of them developed the disease in question. Dr. Henry E. Armstrong reports that as there was no small-pox during the year the buildings intended for this disease were used for scarlet fever convalescents. During the twelve months ended Nov. 26th, 1909, there were 64 corporation patients from Newcastle admitted into the Barrasford Sanatorium for Consumption. A table is furnished in the appendix to the report dealing with each case, but it is not clear from this what are the dates at which the observations relative to the after-histories of the cases were made. Presumably they relate to the condition on discharge, but this is not as clear as it might be, and we venture to hope that in the next annual report the after-histories of the patients discharged during 1909 and 1910 will be furnished, those for each year being kept separate and the dates of the last observation being also entered.

County Borough of Derby.—Dr. Albert E Brindley, in dealing with the history of diphtheria in Derby, shows by means of a tabular statement the fatality rate of this disease from 1881 onwards. It is interesting to observe the manner in which the case incidence per 1000 of the population has more or less steadily increased, although, of course, the questions of improved diagnosis and better notification have a very great influence in this direction. The case incidence in 1881 was 0·08 per 1000, in 1891 0·71 per 1000, in 1901 0·70 per 1000, and in 1909 5·04 per 1000. The case mortality has oscillated very materially. In 1883 it was only recorded at 15 per cent., but in 1886 it reached 33·5 per cent., and in 1889 41·4 per cent. In 1903 its first marked drop occurred to 3·6 per cent., and during the two years 1908 and 1909 it was 5·5 per cent. and 5·0 per cent. respectively. In connexion with treatment, it appears that in 1909 in the majority of cases admitted into the hospital antitoxin had not been previously given. As regards pulmonary tuberculosis, a list is furnished dealing with the question of causation, and the most interesting point is the very large number of cases which commenced after illness, suggesting, perhaps, not so much infection as the reduction in soil

resistance leading to the development of hitherto latent tuberculosis. The medical officer of health, who was for two years resident at the Royal Infirmary at Manchester, found that there nearly 40 per cent. of the post-mortem examinations—i.e., cases which had died from other diseases—showed evidence of former tuberculosis. These cases were, he observes, cured naturally.

County Borough of Halifax.—Dr. J. T. Neech estimates the population of this town at 107,750, as against an estimate of 111,911 by the Registrar-General, and the rates are based upon the former estimate. The birth-rate of the district is falling more rapidly than the death-rate, and during 1909 the excess of births over deaths was the lowest on record. The illegitimate birth-rate has manifested during recent years an increase in relation to the total births, this percentage now amounting to 4·8. There were 104 stillborn children buried during the year, and in one case where a child born alive was buried as stillborn the Registrar-General ordered the sexton concerned in the case to be prosecuted, and a fine was inflicted. The general death-rate of the district for the year 1909 was 14·4 per 1000, as compared with rates of 14·1, 15·1, and 14·5 for Leeds, Sheffield, and Bradford respectively. The infantile mortality was only 99 per 1000 births. As regards enteric fever, it was found that in 1908 20 per cent. of the cases were associated with the consumption of shellfish, but the "scare" connected with these cases produced such a falling-off in the consumption of this food that in 1909 only 6 per cent. of the total were regarded as shellfish-borne. In discussing the behaviour of diphtheria, Dr. Neech expresses the opinion that hospital isolation does not appear of much value in curtailing its spread. The case mortality for 1909 was 21 per cent. It would be very instructive if, with reference to each fatal case, the dates of attack and of the administration of antitoxin could in future be published in the annual report. This would be of use educationally, and tend to emphasise the value of antitoxin in the minds of the public. The water-supply of this borough is derived from upland surfaces, and for the most part there is no filtration. But as regards the water of certain reservoirs mechanical filters are employed. A table showing the percentage purification bacteriologically from these filters would be instructive. All the water apparently possesses some plumbo-solvent power, and one grain of slaked Buxton lime is added to each gallon of water as milk of lime, except in the case of one source which is very acid, and to this 8 grains per gallon are added, as well as ½ grain per gallon of albumin-juice for clarifying purposes.

The City of Chester.—Dr. J. R. Currie furnishes an instructive table as to the fatality-rate of scarlet fever in Chester from the year 1886 down to the present time. In 1886 the fatality-rate was 14·2 per cent. and in 1889 12·2 per cent. Since that time this fatality-rate has been falling in an irregular fashion, but in 1904 a rate of 10·9 per cent. was recorded, which, of course, was very high for such a recent date. In 1906 there were 102 cases without a death. There were two cases of human anthrax in Chester during 1909 and both proved fatal; one was that of a warehouseman and the other a butcher. In the first case the patient was not seen by a medical man until after death, and in the second the disease was recognised, but the man died shortly afterwards. He apparently contracted the diseased by inoculating himself with the flesh of a cow which had been slaughtered because it was dying.

County Borough of Huddersfield.—Dr. S. G. Moore, who estimates the population of this district for the year 1909 at 103,000, reports that use has been made of a wooden pavilion in the grounds of the isolation hospital, which was originally intended for small-pox, for the education and treatment of early cases of pulmonary tuberculosis. Only carefully selected males are admitted, and preference is given to young adult wage-earners. The accommodation available does not enable the cases to be retained for more than from six to eight weeks, but during this time they learn how to live healthy lives, and the opportunity is taken to disinfect their dwellings. During 1909 there were five non-registered midwives practising in Huddersfield, but they appear only to have attended a few emergency cases. They were warned not to practise after April, 1910. The Huddersfield midwives alone attended, during 1909, 707 out of a total 995 cases, and during that year only 5 deaths occurred in the midwives' practice: 3 from puerperal fever, 1 from eclampsia, and 1 from pelvic cellulitis.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 77 of the largest English towns 8326 births and 4711 deaths were registered during the week ending Jan. 7th. The annual rate of mortality in these towns, which had declined in the five preceding weeks from 18·1 to 14·1 per 1000, slightly increased to 14·3 in the week under notice. During the 13 weeks of last quarter the death-rates in these towns averaged 14·7 per 1000, against 14·8 and 14·3 in the corresponding quarters of 1908 and 1909. In London the annual death-rate last quarter was equal to 15·3 per 1000, against 13·7 and 13·5 in the two preceding corresponding quarters. The annual death-rates in the 77 towns during the week under notice ranged from 4·2 in King's Norton, 6·7 in Hornsey, 6·8 in Ipswich, and 7·6 in Walsall, to 19·3 in Grimsby and in Dewsbury, 19·4 in Oldham, 20·4 in Bootle, and 21·0 in Swansea. The 4711 deaths from all causes in the 77 towns last week showed an increase of 120 upon the number in the previous week, and included 160 which were referred to measles, 76 to diphtheria, 57 of infants under two years of age to diarrhœa and enteritis, 53 to whooping-cough, 24 to enteric fever, and 22 to scarlet fever, but not one to small-pox; thus 392 deaths resulted from these principal epidemic diseases, against 442 and 391 in the two preceding weeks. The deaths from measles, which had been 208 and 185 in the two previous weeks, further declined last week to 160, but showed annual rates exceeding 2·0 per 1000 in Dewsbury, Middlesbrough, Bury, and Coventry. The fatal cases of diphtheria rose last week to 76 from 56 and 55 in the two preceding weeks; 20 occurred in London and its suburban districts, 5 in Portsmouth, 4 in Liverpool, 7 in Leeds, and 3 each in Birmingham, Bradford, and Cardiff. The 57 deaths of infants aged under two years attributed to diarrhœa and enteritis included 19 in London and its suburban districts, 7 in Liverpool, and 5 in Manchester and Salford. The deaths from whooping-cough, which had been 61 and 54 in the two preceding weeks, were 53 last week, of which 21 were returned in London and its suburban districts, 3 in Bristol, and 2 each in Brighton, Nottingham, Stockport, Manchester, Bradford, Leeds, Middlesbrough, and Newcastle-on-Tyne. The 24 deaths referred to enteric fever were within one of the number in the previous week, including 8 in London and its suburban districts, 4 in Manchester and Salford, and 2 in Wigan. The fatal cases of scarlet fever, which had declined from 30 to 21 in the four preceding weeks, were 22 last week, of which 3 occurred in Manchester and Salford, 3 in London and its suburban districts, and 2 each in Birmingham, Liverpool, and Cardiff. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospital, which had steadily declined in the eight preceding weeks from 1882 to 1594, had further fallen to 1491 on Saturday last; 154 new cases of this disease were admitted to these hospitals during the week, against 167 and 140 in the two previous weeks. The 1328 deaths from all causes in London in the week under notice included 289 which were referred to diseases of the respiratory system, against 261 and 263 in the two preceding weeks. In the 77 large towns 180 deaths resulted from different forms of violence, against 179 and 186 in the two previous weeks; and 431 inquest cases were registered. The causes of 48, or 1·0 per cent., of the deaths registered during the week in the 77 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Hull, Nottingham, Leicester, Salford, and in 47 other smaller towns; the 48 uncertified causes of death in the 77 towns in the week under notice included 12 in Liverpool, 5 in Birmingham, 4 in Sheffield, 4 in South Shields, and 3 in Barrow-in-Furness.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 817 births and 526 deaths were registered during the week ending Jan. 7th. The annual rate of mortality in these towns, which had been equal to 13·4 and 14·7 per 1000 in the two previous weeks, declined again to 14·3 in the week under notice. During the 13 weeks of last quarter the death-rates in these towns averaged 14·8 per 1000, only slightly exceeding the mean rate during the same period in the 77 English towns which

was 14·7 per 1000. The annual death-rates during last week in the eight Scotch towns ranged from 9·7 and 11·3 in Perth and Greenock to 16·5 in Dundee and 19·0 in Leith. The 526 deaths from all causes in the eight towns last week were fewer by 8 than the number in the previous week, and included 56 which were referred to the principal epidemic diseases, against 40 and 43 in the two preceding weeks; these 56 deaths were equal to an annual rate of 1·5 per 1000, and ranged upwards to 4·2 in Leith. Of these 56 deaths, 20 resulted from whooping-cough, 14 from diphtheria and croup, 12 of infants under the age of two years from diarrhœa, 6 from scarlet fever, and 2 each from measles and enteric fever, but not one from small-pox. The fatal cases of whooping-cough, which had been 12 and 7 in the two preceding weeks, increased to 20 in the week under notice, of which 7 occurred in Glasgow, 6 in Leith, and 3 both in Edinburgh and Dundee. Of the 14 deaths from diphtheria and croup, 6 were recorded in Glasgow and 5 in Edinburgh. The 12 fatal cases of infantile diarrhœa included 9 in Glasgow and 2 in Aberdeen. The 6 deaths from scarlet fever corresponded with the number in the previous week, including 2 in Glasgow. The 2 deaths referred to enteric fever occurred in Glasgow and the 2 fatal cases of measles in Edinburgh. The deaths referred in the eight towns to diseases of the respiratory system, which had declined in the five preceding weeks from 157 to 92, rose again last week to 98, but were 74 below the number returned in the corresponding week of last year. The deaths resulting from different forms of violence in the eight towns were 19 last week, against 15 and 17 in the two preceding weeks; and 151, or 29 per cent., occurred in public institutions. The causes of 11, or 2·1 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 77 largest English towns the proportion of uncertified causes of death last week did not exceed 1·0 per cent.

HEALTH OF IRISH TOWNS.

In Dublin 203 births and 168 deaths were registered during the week ending Jan. 7th. The annual rate of mortality in the city, which had been equal to 21·6 and 18·9 per 1000 in the two preceding weeks, rose again to 21·5 in the week under notice. During the 13 weeks of last quarter the annual death-rate in the city averaged 19·8 per 1000, whereas in London the death-rate during the same period did not exceed 15·3 per 1000. The 168 deaths from all causes in Dublin last week showed an increase of 22 upon the number in the previous week, and included 19 which were referred to the principal epidemic diseases, of which 6 resulted from whooping-cough, 5 from scarlet fever, 4 from measles, 3 of infants under two years of age from diarrhœa or dysentery, and 1 from diphtheria, but not one either from small-pox or enteric fever. The 6 fatal cases of whooping-cough were fewer by one than those returned in the previous week; whereas the deaths both from scarlet fever and measles showed an increase. The deaths from all causes included 56, or 33 per cent., which were recorded in public institutions. The causes of 4, or 2·4 per cent., of the deaths in the city during the week were not certified either by a registered medical practitioner or by a coroner. In Belfast 241 births and 122 deaths were registered during the week under notice. The annual rate of mortality in this city, which had declined in the four preceding weeks from 20·1 to 12·1 per 1000, rose again last week to 16·0. During the 13 weeks of last quarter the annual death-rate in Belfast averaged 16·0 per 1000, against 19 8 in Dublin during the same period. The 122 deaths from all causes in this city during last week included only 4 from the principal epidemic diseases—namely, 3 from diarrhœa, enteritis, or dysentery, and a fatal case of scarlet fever; no death being referred to measles, diphtheria, whooping-cough, enteric fever, or small-pox. Six deaths resulted from different forms of violence; and 32, or 26 per cent., of the deaths occurred in public institutions. The causes of 3, or 2·5 per cent., of the registered deaths were not certified either by a registered medical practitioner or by a coroner.

KING EDWARD'S HOSPITAL FUND FOR LONDON.—The King has sent his annual subscription of £1000 to King Edward's Hospital Fund for London.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeon E. Sutton to the *Highflyer*, on completing. Staff-Surgeons: P. F. Alderson to Chatham Dockyard; E. R. L. Thomas to the *Sphinx*, additional, and on recommissioning; and J. Boyan to the *Edgar*, and to the *Pegasus* on recommissioning. Surgeons: W. C. Carson to the *Pelorus*, and to the *Merlin* on recommissioning; G. A. S. Hamilton to the *Excellent*, additional, for the *Revenge*; L. C. Hunt, to the *Blenheim*, additional for the *Swift*; C. F. O. Sankey, to the *Temeraire*; R. J. G. Parnell to the *Highflyer*, on completing; P. B. Egan to the *Skipjack*; E. MacEwan to the *Africa*; A. H. Joy to the *Bulwark*, additional; and D. A. Mitchell to the *Argonaut*, and for group of ships of Fourth Division Home Fleet; F. C. Robinson to the *Edgar*, and to the *Sealark* on recommissioning; and C. J. Aveling to the *Edgar*, and to the *Fantome* on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Colonel W. G. Macpherson, C.M.G., has been transferred from Malta to India. Colonel F. B. Maclean has taken over duty as Principal Medical Officer of the Seventh (Meerut) Division on his return from leave. Lieutenant-Colonel G. H. Barefoot has been transferred from Bareilly to command the station hospital at Ranikhet. Lieutenant-Colonel J. J. Russell has been transferred from Limerick to the Southern Command. Lieutenant-Colonel H. H. Brown, from Murree, has been granted four months' general leave. Lieutenant-Colonel R. W. Wright, on arrival in India from England, has been selected to command the station hospital at Jhansi. Lieutenant-Colonel T. B. Winter, from command of the station hospital at Bareilly, has on arrival home been appointed Senior Medical Officer in charge of Recruiting Duties, London District. Lieutenant-Colonel C. T. Blackwell, from Woolwich, has taken over the command of the station hospital at Madras. Lieutenant-Colonel S. Glenn Allen has embarked for a tour of service at Gibraltar. Lieutenant-Colonel C. Birt has taken over command of the Fourteenth Company Royal Army Medical Corps at Dublin, in succession to Lieutenant-Colonel W. L. Reade, who has embarked for a tour of service at Mauritius. Major T. H. J. C. Goodwin, D.S.O., has been appointed Specialist in Advanced Operative Surgery to the Fourth (Quetta) Division. Major I. A. O. MacCarthy, on arrival home for duty from the Straits Settlements, has been posted to the Eastern Command. Major M. P. C. Holt, D.S.O., specialist in advanced operative surgery to the Third (Lahore) Division, has been transferred from Kasauli to Ambala. Major T. B. Black, from Aldershot, has taken up duty at Cairo. Major B. Forde, from Wynberg, has taken up duty at Bloemfontein. Major H. G. F. Stallard has embarked for a tour of service in India, for duty in the Seventh (Meerut) Divison. Major H. V. Prynne, from Gibraltar, has been posted to the Eastern Command. Major A. H. Waring, from Secunderabad, has taken up duty in the Southern Command. Major W. B. Winkfield has embarked in the troopship *Plassy* for India. Major W. E. Hudleston has been transferred from Golden Hill to Portsmouth. Major J. W. Jennings, D.S.O., Recruiting Medical Officer at Liverpool, has notified his intention to retire from the service on completion of 20 years' duty. Captain D. Ahern has taken up duty in Egypt. Captain F. A. McCammon has arrived home on leave from Quetta. Captain A. S. Williams has been transferred from Dinapore for duty at the station hospital, Dum Dum. Captain G. R. Paignton has arrived home on duty from Sierra Leone The following officers have joined the Royal Army Medical College, London: Captain A. J. Hull from Dover, Captain N. D. Walker from the London District, and Captain C. C. Cumming from Queen Alexandra's Military Hospital, Millbank. Captain A. H. Jacob has arrived home from Gharial, Northern India, on leave. Captain J. E. Powell, from Bareilly, has been granted four months' leave on medical certificate. Lieutenant A. Hendry has been transferred from Mhow to Indore. Lieutenant S. S. Dykes, from Barry Camp, has joined at Edinburgh. Lieutenant E. C. Lambkin has been appointed for duty at Windsor. Lieutenant J. R. Hill, from Monmouth, has been posted to Pembroke Dock. Lieutenant A. S. M. Winder, from Donard Camp, has been transferred to the

Curragh. Lieutenant F. R. Laing and Lieutenant J. T. Simson, appointed on probation July 31st, 1909, and Jan. 28th, 1910, respectively, have been stationed at Aldershot.

INDIAN MEDICAL SERVICE.

The King has approved of the following appointments:—To be Colonel: Lieutenant-Colonel John Adams Cunningham (dated Oct. 26th, 1910). To be Brevet-Colonel: Lieutenant-Colonel Johnston Shearer, C.B., D.S.O. (dated Nov. 11th, 1910).

The King has approved of the following retirements:—Brevet-Colonel Johnston Shearer, C.B., D.S.O. (dated Dec. 6th, 1910). Lieutenant-Colonel John Adolphus Burton (dated Dec. 6th, 1910). Lieutenant-Colonel George Ernest Fooks (dated Dec. 6th, 1910). Major Thomas Alfred Ollivant Langston (dated Dec. 12th, 1910).

Lieutenant-Colonel D. T. Lane, civil surgeon at Lahore, has been appointed Professor of Forensic Medicine and Toxicology at the Lahore Medical College, in succession to Lieutenant-Colonel H Hendly, who has been placed on special duty at Rawal Pindi. Lieutenant-Colonel J. J. Pratt, civil surgeon of Lucknow, has been granted privilege leave combined with furlough for 18 months. Lieutenant-Colonel R. C. MacWatt, Bombay, has arrived home on leave. Major F. O'Kinealy has taken up duty as Surgeon on the Personal Staff of the Governor-General of India. The services of Major H. J. K. Bamfield, district plague medical officer at Ferozopore, have been replaced at the disposal of the Commander-in-Chief. Major F. D. S. Fayrer, on return from leave, has been appointed by the Foreign Department of the Government of India to be Civil Surgeon at Dera Ismail Khan. Major H. J. Walton has taken over his appointment as Civil Surgeon of Bulandshahr. The services of Major J. C. H. Leicester have been replaced at the disposal of the Bengal Government. Major J. L. Macrae has had his appointment as Civil Surgeon of Coorg confirmed. The services of Captain W. J. Collinson, on plague duty in the Punjab, have been replaced at the disposal of the Government of India in the Home Department. Captain L. Cook, officiating civil surgeon at Midapore, has been granted two years' combined leave home from India. Captain C. A. Gourlay has passed in Bengali by the colloquial test. Captain W. F. Brayne has been appointed to Rangoon for duty in connexion with the prevention of plague. Captain W. E. McKechnie has taken over duty as officiating Civil Surgeon at Etawah, United Provinces. Lieutenant T. J. C. Evans has been appointed Specialist in Advanced Operative Surgery to the Eighth (Lucknow) Division. Lieutenant G. T. Burke has been transferred from the officiating medical charge of the 48th Pioneers to the officiating medical charge of the 11th Rajputs at Fyzabad. Lieutenant L. H. L. Mackenzie has been attached to the 72nd Punjabis at Dera Ismail Khan.

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned gentleman has been appointed Surgeon:—Charles Francis Alexander Hereford (dated Dec. 30th, 1910).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Attached to Units other than Medical Units.—Captain James Middleton to be Major (dated Nov. 23rd, 1910).

THE TERRITORIAL DECORATION.

The King has been graciously pleased to confer the Territorial Decoration upon the undermentioned Officers of the Territorial Force who have been duly recommended under the terms of the Royal Warrant dated August 17th, 1908:—

Royal Army Medical Corps.

Major James Arthur Rigby, attached to the 2nd West Lancashire Brigade, Royal Field Artillery. Major Joseph Dallas Pratt, attached to the 4th (City of London) Battalion, The London Regiment (Royal Fusiliers).

DEATHS IN THE SERVICES.

Colonel Francis Howard, retired pay, late Army Medical Staff, on Jan. 2nd, at Bournemouth, aged 69 years. He joined the army as assistant surgeon in 1863, becoming surgeon in 1873, and surgeon-major in 1876. He served during the Afghan war in 1878–79 in medical charge of the 25th King's Own Borderers (medal), and in the Egyptian expedition, 1882 (medal and bronze star). He became brigade surgeon in 1888, ranking as lieutenant-colonel, and retired in 1893. For some time Colonel Howard acted as medical officer of the Recruiting Staff in the Home District, and after his retirement was employed at the War Office during the South African war. He was the author of a "Handbook of Medical Organisations of Foreign Armies," and made some interesting communications in our columns on the subject of varicocele.

ANTITYPHOID INOCULATION IN THE ARMY.

In view of the advanced stage reached in the system of inoculation of troops against enteric fever the Army Council has decided that the practice of attaching specially selected junior officers of the Royal Army Medical Corps to regiments proceeding abroad for the purpose of carrying out the injections is to be discontinued, and officers now attached to units for this purpose are to revert to general duty. The inoculation at home stations of troops proceeding abroad will continue to be carried out, and inoculations in commands abroad will also be continued under present arrangements.

At the end of last year the North Riding of Yorkshire Branch of the British Red Cross Society had registered ten voluntary aid detachments, and the registration of several other detachments is contemplated.

Correspondence.

"Audi alteram partem."

CLEAN MILK.

To the Editor of THE LANCET.

SIR,—It is recognised on all sides that few matters are of greater importance in promoting the health of the nation than a pure milk-supply. Yet, unfortunately, milk is peculiarly susceptible and liable to contamination, not only while it is in the hands of the producer and retailer, but also as soon as it reaches the consumer. For want of due care in handling milk is frequently, as is well known, a potent factor in the dissemination of a number of serious diseases, and has great influence on infant mortality.

Since the inception of the National League for Physical Education and Improvement in 1905 the question of pure milk has occupied a prominent position in its programme, and a special committee of eminent experts has devoted much time to the problem. The league is now undertaking definite practical steps to deal effectively with the matter. Pending more adequate legislation than at present exists, it is hoped that this action will arouse the nation at large to a sense of its responsibility in the matter. The intention, briefly stated, is to instil into the minds of all concerned in the production and consumption of milk a knowledge of the simple rules required to ensure its purity and cleanliness.

Full details of the scheme, and of the standard leaflets on which it is based, will gladly be sent on application to the Secretary of the League, at 4, Tavistock-square, W.C.

We are, &c., for the National League for Physical Education and Improvement,

W. B. RIPON,
Chairman of the Executive Council.
F. MAURICE,
Maj.-Gen., Hon. Vice-Chairman.
LAUDER BRUNTON,
Vice-Chairman.
JOHN TWEEDY,
Vice-Chairman.

H. R. BEEVOR,	ROBERT JONES,
A. HOLDEN BYLES,	JOHN MACDONELL,
JAMES CANTLIE,	HOWARD MARSH,
A. M. BOYD CARPENTER,	F. JAMES MATHESON,
ANDREW CLARK,	MAUDE MAUFE,
ERNEST CLARKE,	E. H. POOLEY,
D. EYRE,	MARY SCHARLIEB,
MALCOLM FOX,	W. J. SIMPSON,
F. E. FREMANTLE,	A. WATT SMYTH,
EDWARD E. HAYWARD,	H. RUSSELL WAKEFIELD,
T. H. HENDLEY,	MARY A. WARD,
A. HOARE,	J. E. WALKER,
T. HENRY HOWARD,	A. T. WAUGH,

Members of the Executive Council.

Tavistock-square, W.C., Jan. 10th, 1911.

THE CURRICULUM OF THE MEDICAL STUDENT.

To the Editor of THE LANCET.

SIR,—Sir Henry Morris's speech, reported in your issue of Jan. 7th, will, I trust, receive the close attention of every member of the profession. In my opinion no more mischievous proposal, for both the profession and the public, could be devised than that which he has put forward.

For a considerable time the profession has felt that the preliminary general education standard for students entering it has been allowed to reach a seriously low level as compared with the standards required by other professions. A few years ago it had become practically equivalent to the standards required of students of veterinary surgery and pharmaceutical chemistry. The matter was then considered by the British Medical Association, and as the result of a careful inquiry a deputation was sent to the General Medical Council to urge the necessity for considerable changes. The General Medical Council, however, found themselves unable to do anything to alter the existing state of affairs.

The reason for this will be naturally searched for by everyone interested in the matter. The financial interests of the licensing bodies and those of the profession at large are absolutely different. The profession is gravely overcrowded, and the proper way to correct this evil—as great an evil ultimately for the public as for the profession—is clearly to make the entrance standard of general education what can only be described as a commonly decent one. The licensing bodies collectively, on the other hand, have everything to gain from passing into the profession an excessive number of candidates, and, to them collectively, the establishment of a high standard of general education would obviously be a financial misfortune. The age-limit for entry into the profession has been fixed by the General Medical Council at 16 (!) and the standard of general education required at what is suitable to boys of a little over 15! Sir Henry Morris now proposes to shift into the school curriculum a portion of the professional studies! What the British Medical Association proposed was to raise the age-limit of entry to 17 and the standard to one suitable to boys of average intelligence at that age.[1] Now, let it be clearly grasped what Sir Henry's Morris's proposal means. It means a virtual lowering of the already too low age-limit. Not only so, it also means the reduction of the already all too short time which may be allotted to that general culture which makes so vast a difference to the man in after life, whatever his position may be. Further, it means, in some cases at all events, admitting boys into medical and surgical, male and female, wards at what I do not hesitate to call an indecent age. It is, in fact, a proposal for the further cheapening of the medical curriculum in no way calculated to elevate the character or improve the prospects of the profession, or to increase the confidence felt by the public in it and in its governing council.

I trust that the profession will not miss the real meaning of this most grave proposal, and will begin to consider whether the time has not come for a strong assertion of the right of medical men collectively to determine for themselves the standard of culture for the profession which public policy demands; for not leaving the sources of the profession's prosperity, efficiency, and prestige at the mercy of any official body, however exalted, which has financial interests so obviously irreconcilable with those of the profession generally.

I should be sorry to say a word which would belie the great respect I entertain for Sir Henry Morris personally. He is incapable of intentionally doing this great injury to the calling on which he himself reflects so much honour. But "evil is wrought for want of thought, as well as from want of heart." It is the system and the mode of thought, which can lead one so able and so well-intentioned to enunciate anything so pernicious, that I desire to call attention to. If the profession is so short-sighted as to allow this proposal to be carried into effect, the time is not far distant when it will have cause to regret a lamentable want of wisdom. I am, Sir, yours faithfully,

Exeter, Jan. 9th, 1911. W. GORDON.

[1] Brit. Med. Jour., 1902, vol. ii., p. 262.

MENDELISM AND HEREDITARY CRANIO-CLEIDO-DYSOSTOSIS.

To the Editor of THE LANCET.

SIR,—Your issue of Nov. 19th, 1910, contained an able and outstanding paper by Mr. D. C. L. Fitzwilliams of St. Mary's Hospital on Hereditary Cranio-cleido-dysostosis. At the close of his communication he sums up as follows:—

> It might be suggested that the cause in both affections [hereditary cranio-cleido-dysostosis and achondroplasia] is due to the presence or absence of certain chemical constituents which are necessary for the correct ossification of membrane bones in the one case and of cartilage bones in the other; in much the same way as we know that hæmophilia must be due to a hereditary absence from, or presence in, the body of certain chemical constituents. Couvelaire advanced a somewhat similar view when he said that hereditary cranio-cleido dysostosis was "the expression of a general taint with a predominance in certain osseous groups."[1]

I hope you will give me some of your space for a few remarks on this condition in relation to Mendelism and the origin and maturation of the ovum.

As the author states, "hereditary cranio-cleido-dysostosis is a condition which affects those bones which develop wholly or partly in membrane." Professor Fawcett of Bristol points out in his interesting Long Fox lecture[2] on the Development of the Human Skull, the exact details, but for our purposes it may be stated that the cranial vault and the interparietal part of the occipital bone are laid down in membrane, and we must add to this the additional fact that the outer half of the clavicle, the earliest bone in the body to ossify, is also developed in the same basis. In one of his two cases (a child 3 years old) Mr. Fitzwilliams found that the deficient ossification affected the vault of the cranium and the interparietal occipital portion and the outer half of the clavicle. The basi-occipital ossified as usual in cartilage.

Expressed in Mendelism, this is a condition where we have a deficiency or loss to the organism, of the determinant for ossification in the definite group of unit-characters for the ossification of the bones laid down in membrane. Heredity plays a part in the history, as in 60 cases collected 31 came from eight families. The conditions as to heredity will be best studied, however, in brachydactyly, to be taken up shortly. In the condition known as achondroplasia to which the author alludes, we have a defect in length of the bones developing in early endochondral ossification—viz., the upper and lower limbs, the innominate bones, the ribs, and the basi-occipital; and from a Mendelian point of view we have here a loss of the determinants, in part, which govern the length of the bones developing in early endochondral ossification. Those in which later endochondral ossification occurs—the spine, carpus, tarsus, sternum, costal cartilages, patellæ—are unaffected, and the bones developing in membrane, as already stated, are normal. It is the change in the basi-occipital that gives the achondroplasic the skull alteration (see "Encyclopædia Medica," Vol. I., p. 55).

If now we take brachydactyly, where the middle phalanx of the fingers[3] is apparently awanting, we find that while the fingers have only two phalanges, the missing middle phalanx is represented by a nodule of cartilage ankylosed to the first phalanx (Drinkwater). This condition may be regarded then as a loss in the unit-character of length for the middle phalanges of the foot and hand. All these so-called deformities I regard as really variations and not as pathological conditions. We see, therefore, that in these three variations we have an exact loss, as exact as a brick out of a wall.

If, then, we grant that a Mendelian unit-character is lost, the question comes, Where has that occurred? The answer I suggest is this—that the loss occurred in the maturation of the germ- and sperm-cells prior to fertilisation, when the chromosomes are reduced to a half for each gamete. These reduced cells, now the gametes, unite in fertilisation and make up the normal number for the zygote (fertilised ovum). My reasons for adopting this hypothesis are that (1) the determinants of heredity are in the nucleus of the primitive germ- and sperm-cells; thus when these are reduced by the loss of the polar bodies we get some heredity determinants

[1] Op. cit., THE LANCET, p. 1475.
[2] Bristol Medico-Chirurgical Journal, June, 1910.
[3] The foot is similarly affected. In the Naegele pelvis, where there is some defect in the unit-character determining the size of one side of the pelvis, there is sacro-iliac ankylosis.

thrown off. The centrosome is generally held to regulate the division of the chromosomes, and the cytoplasm has not been shown to be directly concerned with heredity. If it be urged that the same chromosomes may be lost at each fertilisation, and that thus variation cannot result, the objection will be seen not to be valid when another question is considered. It is granted that heredity conditions are transmitted and that the same happens in the case of crossings of plants and animals. The question now arises, How is this? We must grasp here firmly a disputed fact—viz., that the primitive germ- and sperm-cells in the ovary and testis respectively, from which the gametes arise, are not derived from the germ and sperm epithelium (Waldeyer's view in 1870), but arise from an early division of the early zygote, travel through the developing embryo, and ultimately become fixed in the genital ridge of the Wolffian body (Eigenmann, Beard, and others). They are then the primitive germ- and sperm-cells (ordinary ova and spermatozoa) and become gametes when the polar bodies are thrown off. Thus the gametes contain heredity determinants owing to this origin, while the view that the primitive germ- and sperm-cells are modified somatic cells makes heredity unintelligible.

The question of the ratios as in brachydactyly can be under explained only by Mendelism. Mendel showed that in plant crossings the contrasted unit-characters segregate out in such a manner that in the second and third generations, taken together, there is a ratio of 1:2:1 *in the plants*. Mendel thought that this was due to a combination of the pollen grains and egg-cells giving this elementary probability result, and as a plant was by him, unfortunately, considered as a merely somatic organism in which one does not require to recognise a propagative and somatic part a serious error was made. It was thus not recognised that the significance of the first generation following in its soma one of the contrasted unit-characters is that the 1:2:1 ratio in plants cannot be due to gametic combination seeing that the combination of egg-cells and pollen grains ends in a generation. The determinants of the contrasted unit-characters in crossings really segregate out in the zygote in the 1:2:1 ratio and that is the reason why biometric measurements of stature, &c., in man and plants give some form of this curve. When once we see that determinants re-arrange themselves in the zygote according to the curve of frequency we can extend this process to the primitive germ-cells and gametes.

I hold then that the significance of the mitotic changes in the primitive germ-cells of the early developing ovary is that these are producing variation of the determinants of heredity both by the gross divisions and by a minute re-arrangement in the divided particles. Thus all the determinants are re-arranged by the law of frequency and not by Galton's law, but this point would take too long to consider here. In this way we get in the polar bodies thrown off, not always the same determinants but different ones, and as important ones have their chance of loss, each unit-character gets thus its dangerous time of loss.

In brachydactyly Drinkwater found the ratio in families affected to be 50 per cent. affected, 50 per cent. non-affected. This is, I believe, explained if we suppose that the whole determinant for length for the middle phalanx was lost and thus it is like a head or tail result in tossing, 50 per cent. of each.

That the variations or deformities are *automatic* losses is emphasised by the fact that analogous conditions explainable on the same hypothesis—e.g., anencephaly, genital deformities, &c—are constantly occurring, although from their nature there is no heredity—such variations are incapable of propagation. The three deformities considered, cranio-cleido-dyostosis, achondroplasia, and brachydactyly, are thus due to a loss of the determinants of a Mendelian group of unit-characters at the maturation of the ovum or spermatozoon; they are transmitted because the primitive germ cells are derived from an early division of the zygote when the determinants are causal; and are transmitted with a probability result, because their determinants are re-arranged in the primitive germ-cells and zygote according to a frequency law. Ordinary variations arise in this way, but gross losses in the polar bodies will give a marked variation—a mutation, in fact.

I have trespassed too long on your space and therefore do not consider how far Darwinism could be applied, and I have also had to omit many details. I wish, however, to state in conclusion that I am confident the day will come when the body of man will be considered as made up of functional and anatomical unit-characters—i.e., of Mendelian autonomous units. In the skeleton we have three great groups already: (1) the bones developed in early endochondral ossification; (2) those in late endochondral ossification; and (3) those in membrane. In the brain and spinal cord we have the corpus callosum, which may be exactly wanting in some cases, the spinal cord, the spinal ganglia, posterior roots, and sensory nerves. In amyelia the first is absent but the others present (Oppenheim, Bruce's translation, p. 393). In the genital organs similar groups can be made, while albinism, hæmophilia, and many other structures or conditions yield to this generalisation and line of research. In tracing a family tree we may be able to plot out how these segregate, and ultimately reach the law governing this. Whichever mechanism is the successful one in explaining evolution mysteries, I do not believe that only *one* will succeed, but I hold that one of the most important will be that much criticised and much misunderstood Mendelism which has made the name of Mendel as immortal as those of Darwin and Wallace.

I am, Sir, yours faithfully,

Edinburgh, Jan. 7th, 1911. D. BERRY HART.

THE BOARD OF TRADE COMMITTEE ON COLOUR VISION.

To the Editor of THE LANCET.

SIR,—I have been strongly advised to write to you with regard to the composition of the Colour Vision Committee appointed by the Board of Trade. Though the overwhelming majority of experts are on my side with regard to the extremely inefficient wool test used by the Board of Trade, not a single one of those who have been instrumental in bringing about the appointment of this committee is on it, whilst those who are definitely associated with the wool test very largely form its expert opinion. The president of the old committee that recommended the wool test is on the committee and the secretary is a physicist who employs the condemned method and is a strong advocate of the wool test. Twenty years ago I was appointed on the International Code of Signals Committee to advise the Board of Trade as to efficient tests for colour blindness. When the committee of the Royal Society (which, like the present committee, had a large majority of physicists; there being only one physiologist) recommended the Holmgren test, and that it was not necessary to have a medical man to test for vision and colour vision, my connexion with the Board of Trade ceased, my place being taken by a physicist, the secretary of the committee. Therefore, for this obviously medical duty the Board of Trade does not employ a single medical man.

Colour-blindness is a physiological subject, and a knowledge of physiology, psychology, and ophthalmology is necessary for its appreciation. One of the two physiologists appointed by the Board of Trade has, through illness, not been able to attend the meetings of the committee. I would suggest that the number of physiologists be made equal to the number of physicists. I have done everything in my power to help the committee to come to a correct conclusion, and shall continue to do so. They have, however, made this very difficult for me, as I wished to make it a condition that I should be present when they examined any of my colour-blind cases, men who are able to pass the Holmgren test. This they refused, so I withdrew the condition, but had they acceded this letter would never have been written.

I am, Sir, yours faithfully,

F. W. EDRIDGE-GREEN.

The Institute of Physiology, University College, London, Jan. 3rd, 1911.

THE CHURCH ANTI-VIVISECTION LEAGUE.

To the Editor of THE LANCET.

SIR,—As I presume the circular issued by the Church Anti-Vivisection League has been sent broadcast to the profession, I thought it might interest your readers to see a copy of my reply to the secretary. I therefore inclose a copy, and hope that if you can find room for it in your journal it may help to prevent some of your readers, through

simple thoughtlessness, giving permission for their names to be added to the list in question.

I am, Sir, yours faithfully,

CHARLES W. HAYWARD,
Liverpool, Jan. 10th, 1911. Barrister-at-Law, M.D., D.P.H., &c.

[ENCLOSURE.]

To the Clerical Organising Sec. Church Anti-Vivisection Society.

DEAR SIR,—In reply to your circular asking me to allow you to add my name to a list of medical practitioners to be used by your league, I must emphatically decline to have my name included in such list.

I am as much against unnecessary cruelty to animals as anybody, but to entirely abolish the right to try the effects of drugs, &c., upon animals would restrict these experiments to being tried upon the human race, which is "out of the frying-pan into the fire!" The Anti-Vivisection Society publishes posters and literature showing that the sufferings of animals in any experiments are equal to similar proceedings with human beings. This is pure dishonesty, and for the purpose of trading upon the ignorance of the public, and raising violent prejudices founded entirely upon ignorant sentimentalism. Animals are saved the mental effects, which are the greater part of human suffering.

Your circular is also in very questionable taste. It asks for names of doctors—"not for publication"—and then offers a temptation to the meaner instincts by stating "we are often asked by Anti-Vivisectionists for the names of Anti-Vivisectionist doctors in their respective neighbourhoods"! Under these circumstances the allusion to "unconscious quackery" is humorous. Yours faithfully,

CHARLES W. HAYWARD,
Jan. 9th, 1911. Barrister-at-Law, M.D., D.P.H., &c.

THE USE OF IODINE AS A DISINFECTANT OF THE SKIN BEFORE OPERATIONS.

To the Editor of THE LANCET.

SIR,—Will you permit me to inform Mr. Willmott Evans that he is in error in stating "the first advocate of its use in this country was Mr. H. F. Waterhouse." My original paper was published in the *British Medical Journal* on August 14th, 1909, several months before Mr. H. F. Waterhouse's communication. I there stated that Dr. A. Grossich of Fiume had used liquor iodi, 10 per cent. solution. So far as I am aware, I was the first surgeon to use tincture of iodine, 2½ per cent. solution. May I also point out that, as I have insisted, shaving is unnecessary and the colour of the iodine is an advantage because it shows the limits of its application.—I am, Sir, yours faithfully,

J. LIONEL STRETTON,
Senior Surgeon, Kidderminster Infirmary and
Jan. 9th, 1911. Children's Hospital.

EHRLICH'S DIAZO REACTION.

To the Editor of THE LANCET.

SIR,—Some remarks in your review of "International Clinics" on p. 1881 of THE LANCET of Dec. 31st, 1910, remind me that I made a long series of experiments with Ehrlich's diazo reaction in various diseases during the early months of 1893. The article containing the results obtained appeared in the *Indian Medical Gazette* for June, 1893. The reaction was most marked in chronic diarrhœa and dysentery and was seen more or less in other diseases.

I am, Sir, yours faithfully,

J. H. TULL WALSH
Jan. 7th, 1911. Lieutenant-Colonel, I.M.S. (retired).

A METHOD OF SERUM DIAGNOSIS FOR TUBERCLE.

To the Editor of THE LANCET.

SIR,—I was not aware that Dr. W. d'Este Emery was also working on this subject or I would have communicated with him before sending an account of my experiments to you. I had no previous knowledge of work on the subject, but followed the principles of the Bordet-Gengou reaction. Before completing the article I looked up "Hewlett's Bacteriology," and found the statement that Wassermann and Brück had experimented on this subject in 1906, and that they appear to have failed to find tuberculous antibodies in localised or latent tuberculosis, but that Brück had been more successful with acute miliary tuberculosis in the early stages. By the method I described these antibodies can be clearly shown to exist in localised tubercle.

The first point Dr. Emery raises is the standardisation of the fresh tubercle emulsion. My procedure has been to prepare an emulsion on the lines employed for the "opsonic index." I gauge the strength by the appearance. This gives a rough but working standard. I do not find that standardisation of the emulsion is of such extreme importance, for I have obtained equally satisfactory results when employing 5 c.mm., 10 c.mm., and 20 c.mm. of the same emulsion, with 10 c.mm. of unheated and 40 c.mm. of heated serum. But I fully agree with Dr. Emery that there comes a point when, through an excess of the tubercle emulsion, normal human serum loses its power of hæmolysing sheep's corpuscles (probably due to fixation of the complement).

Dr. Emery states that 1/500th dilution of his emulsion fixed the complement in one of his tubercle cases in 10 minutes; this, I think, shows that there is a large working range. I also agree with him that even a small quantity of tubercle emulsion decomplements to some degree normal serum, which is shown when equal quantities of normal serum and tubercle emulsion are mixed together. But when heated serum is also employed this decomplementing is to some extent masked, owing no doubt to the increased quantity of sheep's amboceptor present, intensifying the activity of the complement. Also, whereas the loss of complement in 5 c.mm. may be so great as to fail to produce hæmolysis, this is not the case with 10 c.mm. I find that the complement present in 2½ c.mm. is the minimal which will produce a trace of hæmolysis. Hence, if half the complement in 5 c.mm. of normal serum is deflected there will be no hæmolysis, but if half is removed from 10 c.mm. there will be hæmolysis. Dr. Emery does not state the quantity of serum he employs. The anti-complementary substances in serum appear to be removed by heating; Nagouchi also mentions this point in connexion with the syphilis test. I always read a trace of hæmolysis as a negative result, if the salt tube has only faintly hæmolysed. I also agree with Dr. Emery that an old emulsion gives poor results; this I think is due to the growth of a short broad bacillus.

So as to simplify the technique, I have employed during the last week an emulsion of tubercle bacilli in 5 per cent. carbolic and 1 per cent. salt. This I have standardised with normal and tuberculous sera. I think that this emulsion will keep active for some weeks. Dr. Emery records his results by the length of time required to deflect the complement, and he obtains the extremely interesting result that this can occur in 2½ minutes.

On Dec. 21st, 1910, and again later experimenting with my own serum and a few other normals, ten minutes from drawing the blood, I found the following. 1. That from 2½ to 3 c.mm. were required to show some hæmolysis, this being complete with 5 c.mm. (0·5 c.mm. of sheep's corpuscles). 2. That when the serum was incubated with 20 parts 0·75 per cent. salt for one hour at 98° F., and then the sheep's corpuscles added, there was no trace of hæmolysis with 6 c.mm. of serum, from 7 to 9 c.mm. being necessary to produce a faint tinge (incubated for one hour with the sheep's red cells). That is to say, fresh serum loses a considerable degree of hæmolysing power when warmed to 98° F. for one hour. 3. That when the serum has stood for one hour over the clot the hæmolysing substances appear to gain stability and not to lose by warming to 98° F. Hence, the age of the serum is an important detail, serum from three to six hours old being the best, for though some complement is lost there is a marked gain in stability. By diluting human blood with 9 volumes of 1·5 per cent. salt clotting is prevented, and some of this plasma (equal to 10 c.mm. of pure plasma) diluted with 20 parts of 1 per cent. salt and mixed with sheep's corpuscles produced no hæmolysis.

From these experiments (though too few in number) I infer that the quantity of complement in circulating blood is much less than that in serum, and that clot gives to the serum some substances (complement or amboceptor) which increase its hæmolytic activity for sheep's corpuscles. Dr. Emery states that with normal serum in the presence of tubercle emulsion complement is absorbed in 15 to 25 minutes when warmed in the incubator. He does not mention the quantity of serum employed, but if 5 c.mm. I can quite understand if the serum is fresh that this loss will occur with 1 per cent. salt also. I find that a temperature of 125° F. decomplements serum in 10 minutes. In view of these latter results I now leave the serum and tubercle emulsion at room temperature (60° F.) for one and a half hours before adding the sheep's corpuscles; and, when preparing the decomplemented serum, employ a temperature of 125° F. for 10 minutes, as a greater temperature and time may damage the immune bodies.

As regards the immunity index, I have only put this forward tentatively, suggesting it as some indication of

progress, for I have found immune bodies to increase with improving health, and to be quite absent (as judged by hæmolysis) in one case during a negative phase. On the other hand, the immune bodies appear to decrease as the disease subsides. Dr. Emery appears to agree, on the whole, that immune bodies are favourable. As regards the opsonic index, I found a few days ago three cases (two tubercle of lung and one of spine) with indices below 0·7 to possess the highest immunity index and a high degree of complement. (I have found the reverse also.) 10 c.mm. of serum (three hours old) was mixed with 10 c.mm. of tubercle emulsion (carbolised) and left for half an hour at room temperature (60° F.). That the complement was deflected I was able to show also by the serum losing two-thirds of its activating power on washed human leucocytes (15 minutes at 98° F.). This was demonstrated by adding staphylococci. Employing syphilitic serum and antigen of heart muscle a far greater reduction was obtained. This is simply employing Sir Almroth Wright's observation that leucocytes require complement. I hope later to suggest this method as a means of diagnosing syphilis on the line of Hecht's modification, but also employing heated with unheated serum.

In view of these and other experiments on the same lines, I venture to think that a low opsonic index is frequently due to the presence of a high degree of tuberculous antibodies. These deflect the complement in the presence of the tubercle emulsion employed in the opsonic test. By the same hæmolytic experiments I have shown fixation of complement in two cases of gonorrhœal joint and one of staphylococcal. This will explain, I think, the marked specificity of the opsonic index and its limitation for diagnostic purposes, as complement is frequently greatly in excess to the immune bodies present. An abnormally high opsonic index means, I think, an excess of complement and absence of immune bodies, though probably Dr. Emery's suggestion of the presence of a new substance which inhibits the antigen-immune combination is more correct. Both methods appear to show conclusively that antibodies are produced in tubercle.

A patient suffering from tubercle or other inflammatory disease must constantly be losing complement through intravascular deviation, as tubercle bacilli have frequently been found in circulating blood, but the sera of such patients, as far as my experience goes, show an excess of hæmolysing power for sheep's red cells (excess of complement). An excessive dose of tuberculin would probably reduce the complement in the circulating blood, and in this way be harmful. A falling opsonic index would at once show this, and indicate danger.

When gauging by hæmolytic experiments the progress of a patient undergoing therapeutic inoculation one should, I think, endeavour to estimate not only the degree of immunity but also the degree of complement. This is shown by the tubes C and D in the method I described in THE LANCET of Dec. 31st, 1910. (The diagnosis is made by comparing tubes A and D.) And, as complement is absorbed by all toxin-immune compounds, all other organisms complicating a tuberculous lesion require attention. By using 40 c.mm. of heated with 10 c.mm. of unheated serum I find (in my present limited experience) that it is clearly possible to distinguish between the normal and the slightly tuberculous, and thus give after two or three examinations a definite diagnosis.

I am, Sir, yours faithfully,

Jan. 7th, 1911. V. B. NESFIELD.

DIET AND INOPERABLE CANCER.

To the Editor of THE LANCET.

SIR,—May I be permitted to ask your readers to send to my hospitals a sufficient number of cases of inoperable cancer in order that the effects of medical treatment may be tested? I have for years believed that wrong food was an important factor in the etiology of cancer, but only recently have I seen cases that gave the impression that by alteration of diet we may sometimes cure. I might easily take up columns in arguing the *pros* and *cons* of the cases that have given me this impression, but my object is to put the matter to the test of further experience. In order that this may be done, I want cases in which there is a probability of at least six months of life, as change of diet produces little visible effect on the body under three months, but I may say that even in cases where treatment comes too late to cure it appears to mitigate very decidedly the pain and suffering of death from malignant disease.

Shortly, the treatment consists in putting the patient as quickly as possible under one form of uric-acid-free diet and from that on to one of nuts and fruit chiefly, the only fluid besides fruit juice being distilled water. I have been trying to get such cases for more than 12 months, but they are quite difficult to obtain, for cases of this kind are generally sent back to their friends or to homes for the dying, as hopeless; hence this letter. The names and addresses of males may be sent to the senior house physician at the Metropolitan Hospital, and those of females to the senior resident at the Royal Waterloo Hospital.

I will undertake to publish the result in all cases I am able to accept for treatment. I think that 30 to 40 cases so treated would answer the question whether cure of real cancer by such means is possible. Hitherto it has been assumed, when such cases recover, that the diagnosis has been wrong. I doubt whether this assumption is always correct.

I am, Sir, yours faithfully,

Brook-street, W., Jan. 5th, 1911. ALEXANDER HAIG.

REBATE ON PETROL TAX FOR MEDICAL MEN.

To the Editor of THE LANCET.

SIR,—The letter of your correspondent in THE LANCET of Jan. 7th, p. 58, on the difficulty experienced by medical men in obtaining the rebate of 3*d.* per gallon on petrol consumed before Dec. 31st, 1909, is borne out by my experience. On April 5th, 1910, I supplied the Excise officer at Stratford, London, E., with properly certificated receipts for all the petrol used by me in 1909, and a declaration and application for repayment of duty, the whole of which documents were to his personal satisfaction. Hearing nothing further I wrote on Nov. 26th, 1910, asking for an explanation as to non-receipt of the sum claimed, and on Nov. 29th I received this reply:—

Customs and Excise, Deanery-road, Stratford, E.,
29th Nov., 1910.

SIR,—In reply to your letter of the 26th instant, I beg to inform you that Mr. Harris, for the Cripps Cycle and Motor Coy., 24-28, Woodford-road, Forest Gate, after repeated personal enquiries and correspondence, has failed to produce evidence to substantiate the certificates given on the three invoices that the full duty has been paid to the Crown on the motor spirit supplied to you. I have therefore to return your application, together with the invoices in question.

I am, Sir, your obedient servant,
THOS. SAUNDERS, Officer of Customs and Excise.
Dr. J. S. McDonagh, 235, Romford-road, Forest Gate, E.

Like your correspondent, I have been too disgusted with my failure to recover rebate for 1909 to make further futile applications, which would probably only result in some other ingenious loophole to avoid payment.

I am, Sir, yours faithfully,

Forest Gate, Jan. 8th, 1911. JAS. S. MACDONAGH.

To the Editor of THE LANCET.

SIR,—"Medical Motorist" appears to have been particularly unfortunate. I obtained the 3*d.* per gallon rebate on the petrol bought between April and Dec. 4th, 1909, through the firm which supplied me, and this without any formality. I called at the local Customs office a week ago and was given two forms to fill up, one for the petrol bought during the remainder of December, 1909, and one for that bought during 1910. I had to obtain from my petrol dealers details of the amount of petrol supplied, with a signed certificate to the effect that a total of so many gallons had been sold to me and that the full duty thereon had been paid to the Crown. I sent the forms and this certificate to the local office, and to-day received a cheque from the head office for the amount claimed, except that for some reason or other only 1½*d.* a gallon was allowed on petrol supplied on Dec. 30th, 1909, whilst 3*d.* was allowed on that supplied on Dec 11th.

I am, Sir, yours faithfully,

Guildford, Jan. 7th, 1911. R. W. C. PIERCE.

INVALIDITY INSURANCE.

To the Editor of THE LANCET.

SIR,—The letters from Mr. John J. Scanlan and Mr. Noel A. Humphreys which appear in THE LANCET of Dec. 17th are important contributions to a very important subject. I admit at once that the statistics to which I personally have access are based on the experience of business and professional men. Moreover, the figures quoted in mine of Nov. 25th have reference to the experience of the

"Century" office during the last 25 years. It seems to me that the rate of sickness in the friendly societies is at least a guide to the tendency in the general rate of invalidity. That the rate of sickness experienced by friendly societies is increasing admits of no doubt. The following figures are of interest:—

Ages.	Rate of sickness per member per annum in weeks.					
	Manchester Unity, 1846-48.	Manchester Unity, 1856-60.	Manchester Unity, 1866-70.	A.O.F., 1871-75.	Friendly societies, 1876-80.	Manchester Unity, 1893-97.
20 to 24	0·68	0·83	0·75	0·82	0·85	0·90
25 ,, 29	0·76	0·82	0·81	0·85	0·87	0·95
30 ,, 34	0·84	0·86	0·93	0·97	1·02	1·06
35 ,, 39	0·94	1·00	1·06	1·15	1·24	1·27
40 ,, 44	1·18	1·24	1·26	1·37	1·47	1·58
45 ,, 49	1·51	1·55	1·64	1·71	1·89	1·99
50 ,, 54	2·03	2·01	2·22	2·27	2·39	2·75
55 ,, 59	3·21	3·02	3·05	3·21	3·36	4·02
60 ,, 64	5·06	4·64	4·72	4·59	5·17	6·31

I just add that a rough investigation of the "Century" experience points to the same conclusion—viz., that the rate of sickness is increasing. I do not ask that the fact that sickness payments are on the increase is "conclusive proof of a real increase of sickness." I do, however, hold that in the absence of population statistics the experience of the friendly societies, and incidentally of the "Century" Company may be held to at least point to the fact that the rate of sickness generally is on the increase.

I am, Sir, yours faithfully,

Edinburgh, Dec. 30th, 1910. W. A. ROBERTSON, Actuary.

PATENT MEDICINE IN THE UNITED STATES AND IN CANADA.

(FROM A SPECIAL CORRESPONDENT.)

Present Position in the United States.

THE Food and Drugs Act of the United States has, since its passage in 1906, checked to a considerable extent the sale of many objectionable nostrums. Several States have passed laws tending in the same direction, and although in some States the sale of patent medicines is comparatively unrestricted, yet there is not the free and open sale of such products as was formerly the case. The laws in general prescribe the qualifications necessary for a pharmacist to engage in the practice of selling medicinal agents, regulate the sale of poisons and narcotics, and forbid the sale of adulterated and misbranded drug products. However, there is at present no Federal law which prohibits unregistered or unlicensed persons from sending into inter-State commerce such commodities, although they cannot be sold locally by them, nor indiscriminately even by registered or licensed pharmacists or medical men. The laws of the United States are by no means ideal as regards nostrums, but at least a beginning has been made; the Bureau of Chemistry of the Department of Agriculture has wielded vigorously the powers placed in it by the Food and Drugs Act, and numerous prosecutions have been made.

Campaign against Certain Patent Medicines.

The main effect brought about by the policy of the Bureau of Chemistry has been to educate the public to a sense of the harmfulness of many of the patent medicines. For instance, Dr. L. F. Kebler, chief of the Division of Drugs of the Bureau of Chemistry, published a short time ago a pamphlet pointing out the harmfulness of many of the habit-forming drugs which are contained in so many of the most widely advertised nostrums. He was especially insistent on the fact that the majority of the so-called soothing syrups for infants had in their composition narcotics of one kind or another, especially opium and its derivatives. These soothing syrups are extremely commonly used in America, and Dr. Kebler made out a list of the more prominent ones which contain habit-forming drugs. Of course, a great difficulty met with in America in the endeavour by the authorities to prove to the public that many nostrums are harmful to health is that the lay journals advertise them extensively. The same difficulty is doubtless met with in Great Britain. Wonderful to relate, during the summer of last year an influential daily paper in Philadelphia took the matter up, quoted Dr. Kebler as to the composition of several of the more notorious infant soothing syrups, and initiated a newspaper campaign against the use of these remedies. Further than this, the most conspicuous daily paper of Chicago followed suit and pursued a campaign against babies' soothing syrups with typical western energy. The writers of the articles did not mince words in describing the action of the manufacturers of such products, but vituperated all concerned in the traffic in strenuous western style. Cartoons, too, were brought into use to illustrate more graphically the effect of the syrups, and at the Food Exhibition held in Madison-square Gardens, New York, a few months ago, Dr. Kebler used one of these cartoons on a screen as a part of the Bureau of Chemistry's exhibit to educate the public regarding harmful nostrums generally. Newspapers in different portions of America have interested themselves in the matter to a greater or less extent, and thus the community is beginning to have an intelligent comprehension of the facts of the case.

Moreover, the United States Post Office Department is coöperating with the Division of Drugs. This division in 1909 made analyses of 15 medicinal agents represented as cures for various maladies and sent or prescribed through the post in violation of the postal laws. The investigations required not only the analysis of the samples of the medicines used in the treatments, but also a study of all the claims and representations made for treatment, that the Postmaster-General might be advised as to whether or not false and fraudulent representations and promises had been made. In 1909 and during the past year several successful prosecutions have been brought by the Post-Office Department against nostrum proprietors for violations of the postal laws.

It is impossible to over-estimate the educative influence of the various pamphlets sent out by the Division of Drugs, describing the composition and explaining the injurious nature of many of the well-known quack remedies. It is in this educative propaganda that the utility of the work being done by the Division of Drugs is mainly to be found. Some little time ago Dr. Kebler, Dr. Morgan, and Dr. Rupp, all connected with the Bureau of Chemistry, published a bulletin on the harmfulness of headache powders. These powders are very largely used in America, especially by women, and are no doubt also used on a wide scale in England. It was first shown that acetanilid, antipyrin, and phenacetin are very frequently made use of in the preparation of mixtures intended for the relief of headache and other minor aches and pains; it was likewise shown that the injudicious use of these drugs has produced bad effects in many instances; and furthermore that the number of reported cases of poisoning by at least one of them has increased notably during the past few years. A list was compiled of the authentic cases of poisoning by these drugs, and this plainly proved that headache powders sold indiscriminately are a distinct menace to the public health.

Position in Canada.

In Canada, as has been mentioned in THE LANCET,[1] an Act respecting proprietary or patent medicines was passed in July, 1908. Regarding its effectiveness opinions are divided. The general view appears to be that in parts it is not clearly enough expressed and that it is not strictly enforced. The sale of patent medicines is large; most of them are made in the country on account of the large import duty, and many of the large nostrum manufacturing firms in the United States have branch manufactories in Canada. The patent medicine evil is present in Canada to an extent comparable to that in the United States; but whereas in the United States the Department of Agriculture, through the Bureau of Chemistry, is taking vigorous steps to abate it, in Canada the public has not as yet been fully aroused to the fact that the indiscriminate sale of patent medicines is a source of danger. If strictly enforced the Canadian Patent Medicine Act might, many

[1] THE LANCET, Dec. 19th, 1908, p. 1853.

persons believe, meet the exigencies of the situation, but this remains to be proved.

Proposed Action in the United States.

The volume of the patent medicine business in the United States is enormous. Three years ago it was worth about $75,000,000 (£15,000,000) a year. In the opinion of the officials of the Bureau of Chemistry the most dangerous nostrums are those which are termed habit-forming—that is, which contain alcohol or narcotics.

The action proposed by Dr. Kebler to counteract the endeavours of the nostrum manufacturers to foist their harmful wares upon a public generally ignorant of their injurious qualities is: 1. To educate the public by means of the press and by pamphlets and lectures. 2. To enact laws forbidding the sale of all injurious habit-forming drugs, such as cocaine, morphine, opium, heroin, &c., and their derivatives and preparations by retail, except on prescriptions of medical men. 3. To require a permanent record, subject to State and Federal inspection at all times, to be kept of all transactions in such drugs, whether wholesale, retail, or by means of prescriptions. 4. To enact laws forbidding the handling of any of these products except by manufacturers, wholesale and retail druggists, and others legally qualified. 5. That the State boards of health, or other governing bodies, should be empowered to withdraw the licences of medical men who prescribe or of druggists who sell these articles for other than legitimate purposes. 6. That a Federal law should be enacted forbidding the interchange in inter-state commerce of habit-forming drugs or of preparations containing them, except through the customary channels of trade, and then only when complete records of all transactions have been kept.

The hopeful feature of the situation as regards patent medicines in the United States and in Canada is that something is being done to restrict their sale. Of course, when the community at large understands the bearings of the case, laws to restrict the sale of objectionable quack remedies will quickly be called for and enforced. The fight will be hard as the patent medicine interests are very rich, and every device that money can command will be put into practice to avoid restrictive legislation. It is worthy of note that cocaine is regarded with especial disfavour in the United States. Stringent regulations as to the sale of the drug exist in practically all the States.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Smoke Nuisance.

AT the annual meeting of the city justices a long discussion took place on the smoke nuisance. Manchester suffers grievously from this infliction, which is more noticed by visitors than by residents, who have become habituated to it. It was suggested at the meeting by a speaker that the city justices were too lenient as to fines. In London and Leeds, one gentleman said (I do not know his authority for the statement), fines were doubled until they reached the maximum of £40. It appears that in 1899, which is certainly going back rather far, 178 cases were reported by the inspectors. Of these 47 were cautioned and 131 were summoned before the justices, who imposed a fine in 90 cases only, and the fines averaged less than 50*s.* each. In the majority of cases such a fine as 50*s.* would not be felt. In the end the resolution that the justices should consider the matter was rejected by 25 votes to 15. It seems a pity that the powers of darkness prevailed, for the constant presence of smoke is a material disadvantage to Manchester, both from a health and a business point of view. Living, as many of the city justices do, beyond the smoke zone, they hardly feel the mere nuisance so keenly as some who live in the centre of things, and their sympathies will be with the manufacturers.

Hospital Sunday Fund.

At the recent annual meeting of the Manchester and Salford Hospital Sunday Fund it was announced that during the year £4398 had been received, being an increase over the previous year of nearly £800. The sum distributed among the hospitals was £4100, as compared with last year's distribution of £3400. In his appeal for more help the Lord Mayor said that if the hospitals were municipalised an increase of 10*d.* in the £ on the rates of Manchester would be entailed, "besides losing for the hospitals that personal attention and sympathetic care which they now got from many people." The weak point about the voluntary system is, of course, that a comparatively few persons bear all the burden.

Bequest for Royton Hospital.

The late Mr. Kershaw, F.R.C.S. Edin., L.R.C.P. Edin., &c., former medical officer of health of Royton, left £50,000 in order to provide a hospital for the neighbourhood. Royton is a manufacturing town not very far from Oldham. The Royton council wishes to spend £10,000 or £15,000 on the building, and devote the remainder of the fund to endowment.

Langho Inebriates' Home.

The above institution came under discussion on Jan. 5th at the meeting of the city justices. Mr. E. J. Broadfield said that they wanted more information as to the cost and efficiency of the treatment at the Langho Home. He said it was admirably managed, but very costly, and asked if it were well to send women there who were quite hopeless. It is no doubt a serious problem to solve. Mr. T. Gregory said that those women who had 50 to 100 convictions against them must either go to prison or to Langho, where they were much better off than in prison. Those who went to Langho from Manchester had on an average 50 convictions against them. "It was impossible to cure such people, but at Langho they were kept at less expense, and more to their own advantage, than in prison." Mr. A. Porter said that in these cases there was only one remedy—to shut them up for life, and they should consider the possibility of providing institutions where such people could be kept for life. In the meantime, considerable extension has taken place in the accommodation at Langho for women drunkards, and the Home Department has certified that the reformatory is fitted for the reception and detention of 294 female inebriates, being an increase of 99 in the number of inmates authorised on Nov. 25th, 1905. As if to illustrate the uselessness of a three years' detention at Langho a case was brought before the Recorder, Mr. Tobin, K.C., M.P., at the Salford quarter sessions on Jan. 9th, four days after the discussion by the justices. A tall, masculine-looking woman, named Lyons, aged 52, pleaded guilty to stealing some clothing on Oct. 30th last. She had already been four times before the Recorder, and altogether there were 33 convictions against her, most of them for drunkenness. In May, 1907, she was sent to Langho for three years as a habitual drunkard. She was discharged early last year, and on May 21st was again before the court for stealing. The Recorder sentenced her to six months' hard labour.

Mentally Defective Children.

The necessity for the permanent care of children mentally defective is becoming more widely believed and acted on. On Jan. 4th the Oldham town council passed a resolution to the effect that such children "should be cared for by public authorities after they leave school." Councillor Hirst said that it had been found impossible to make mentally defective children in any sense self-reliant. They must be to some extent a burden on others and a danger to the community, and "they should be cared for in institutions provided by the public authorities and paid for by the legislature." But if all the chronic drunkards and all the defective children are to be practically segregated all their lives at the public expense, ratepayers will have a heavy burden.

Kissing the Shuttle.

In connexion with your recent note on this subject, a case reported by a sanitary inspector at Bacup is interesting. He visited a house where he found a case of phthisis, and ascertained that three persons who had worked on the same looms had all died from consumption. All had followed the universal practice of the weavers of threading the shuttles with the mouth.

Jan. 10th.

THREE lectures on the Comparative Anatomy of the Vertebrate Ear will be given by Mr. R. H. Burne at the Royal College of Surgeons of England, Lincoln's Inn-fields, on Thursdays, Jan. 19th and 26th and Feb. 2nd, at 5 P.M. The lectures are delivered in connexion with the University of London.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University of Birmingham.

THE Chancellor of the University, Mr. Chamberlain, has addressed an appeal to the city council through the Lord Mayor for a further grant to the University from the rates. The number of students has increased from 678, ten years ago, when an annual grant equivalent to a halfpenny rate was first made, to 957, and in the same period the professorial staff has risen from 29 to 37, while the junior staff has practically doubled. At present the income is far below the necessary expenditure. The increased Treasury grant of £50,000 to university colleges, promised by the Chancellor of the Exchequer, is to be apportioned on the basis of the local support afforded to each establishment, which forms an additional reason for further municipal assistance.

Notification of Births at Erdington.

The adoption of the Notification of Births Act at Erdington had formerly been opposed by the medical men of the district. The health committee of the urban council on the representations of the medical officer of health (Dr. A. Bostock Hill) has again given the question earnest consideration and now recommend that the Act be adopted. At the last monthly meeting of the Erdington district council the recommendation of the health committee was unanimously agreed to. The chairman stated that the medical men were now willing that the Act should be adopted, provided that the notification was by letter instead of by post-card, and that the county health inspector should not visit houses where properly qualified practitioners were in attendance. Dr. Hill said there could be no possible objection to the employment of letters as suggested. No difficulty had been experienced in Birmingham, Aston, Leamington, and other places where the Act had been adopted. The adoption of the Act in Erdington brings the district into line with the other suburbs included in the greater Birmingham scheme.

Pathological Society of Great Britain and Ireland.

This society held an interesting and well-attended meeting in the pathological department of the University on Jan. 6th and 7th. The members were entertained at luncheon in the University Club on Jan. 7th by the members of the staffs of the General and Queen's Hospitals, Mr. Jordan Lloyd, the president of the clinical board, occupying the chair.

Jan. 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Vaccination in Scotland.

THE working of the Vaccination (Scotland) Act, 1907, is giving rise to some concern. Previous to the passing of this Act Scotland was a well-vaccinated country, there was no provision for "conscientious objectors," and the number of parents declaring themselves such was small. The Act of 1907 provided a clause whereby vaccination might very easily be evaded. This clause consists of a declaration that in the opinion of the parent signing, vaccination would be injurious to the health of the particular child named. No objections to vaccination in general need be avowed, nor are parents required to undergo any examination before magistrates. The result, as might have been foreseen, is that the clause is being taken advantage of by the most ignorant of the people, sometimes on account of prejudices against vaccination, but often merely to escape the inconvenience of having an infant upset and fretful for a few days after the operation. The Registrar-General for Scotland in his report for the year 1908 estimates that in that year alone, as the effect, direct or indirect, of this Act, 20,000 unvaccinated children were added to the population of Scotland. The public health committee of the Edinburgh town council has had the matter under consideration for some weeks, and at a meeting of a subcommittee thereof on Jan. 7th it was proposed to memorialise Parliament to make an amendment on the 1907 Act with a view to reducing the numbers of persons at present taking advantage of the exemption clause. The Edinburgh Practitioners' Association is also moving in the matter. An application has been made to the public health committee by the National Antivaccination League, London, to be heard on the subject by deputation, and the subcommittee has arranged to hear representatives of the league.

The University of Edinburgh.

The annual report for 1910 shows the total number of matriculated students (including 624 women) to be 3366, of whom 1370 (including 21 women) were in the Faculty of Medicine. Of the students of medicine 615, or nearly 45 per cent., belonged to Scotland; 257, or nearly 19 per cent., were from England and Wales; 105 from Ireland; 96 from India; 245, or nearly 18 per cent., from British Colonies; and 52 from foreign countries, showing that the proportion of non-Scottish students of medicine is well maintained. Among the degrees conferred were: M.B., C.M., 1; M.B., Ch.B., 214; M.D., 76; and Ch.M., 2. The diploma in Tropical Medicine and Hygiene was conferred on five candidates. Of University Fellowships, scholarships, &c., the total annual value is £18,870, of which £3890 are in the Faculty of Medicine. A sum of over £5000 has been given to the University by Mr. Robert Munro, M.D. Edin., LL.D., of Elm Bank, Largs, Ayrshire, for the foundation and endowment of a lectureship in the University, to be known as "The Munro Lectureship on Anthropology and Prehistoric Archæology." Dr. Munro has himself been appointed first lecturer, and he is expected to deliver the first course of lectures during the academic session 1911-12. The Court has appointed Mr. A. Murray Drennan, M.B., lecturer on practical pathology. At the end of the summer session Dr. T. S. Clouston resigned the lectureship in mental diseases, which he had held since 1879, being its first incumbent. The report expresses its regret, and refers to his services in the advancement of science and in the improvement in the treatment of the insane. Mr. R. B. Thomson, M.B., is now second lecturer in anatomy, a vacancy having been occasioned by the resignation of Dr. David Waterston. Mr. David Wallace, M.B., C.M., Mr. J. M. Cotterill, M.B., C.M., and Mr. J. W. B. Hodsdon, M.B., C.M., have been appointed lecturers in clinical surgery. At the general Parliamentary election in January Sir Robert B. Finlay, M.D., LL.D., was elected, and in December he was re-elected (without a contest) Member of Parliament for the Universities of Edinburgh and St. Andrews. The Lords of the Treasury have intimated that they are prepared to make a substantial increase in the annual grant from the public funds to the University. Personal gifts are reported from Emeritus Professor Alexander Crum Brown, Dr. Henry Barnes of Carlisle, Mr. James Lyle, Emeritus Professor Campbell Fraser, and Mr. John Storer Bainbridge. A prize of £50—the twelfth Gunning prize—for Public Health has been instituted, and also an additional Hope Chemistry Prize of £30. A scheme of post-graduate courses in medicine, under the joint auspices of the University and the Royal Colleges of Physicians and Surgeons, is stated to have proved highly successful.

Phthisical Paupers in Glasgow.

The question of who is responsible for the care and treatment of phthisical cases amongst the poor and working classes seems likely soon to become acute in the city of Glasgow. The responsibility lies between the corporation and the parish council. Up to comparatively recently the corporation did not deal with the matter at all. Recently it has made notification of phthisis cases compulsory, and has established dispensaries in various parts of the city, and also at Bellefield it carries on the work of a small sanatorium where selected cases are taken in and treated. The notification is certainly a step in the right direction, but the arrangements for treatment originated by the corporation do not pretend to deal with all the phthisical cases of a large city. At present, therefore, a few of the cases more likely to recover are selected by the corporation for treatment in its sanatorium, whilst the serious and hopeless cases, involving longer residence in an institution and more expense, are left to be dealt with by the parish council. The parish council unfortunately is further hampered by restrictions which make it impossible for that body to deal with the problem in the only way which gives any hope of permanent success. It is compelled to take in the working man suffering from phthisis when he has become unfit for work in the advanced

stages of the disease, to give him medical care and maintenance during a protracted illness, and after his decease (for the mortality-rate is bound to be high in such cases) to support any dependents whom he leaves unprovided for. Should the parish council accept the responsibility of dealing with the disease, and demand that it should get the control of these cases in an early stage, then the Local Government Board steps in and forbids it to put on the rates men who, though afflicted with the incipient stage of the disease, are still able and willing to work and support their families. It seems only right that the parish council should be allowed to do as suggested, or, failing that, that the corporation, having adopted compulsory notification, should be compelled to carry out the logical sequence and to deal with those cases in isolation hospitals in the same way as it deals with scarlet fever and other infectious diseases. A report on the condition of Barnhill poorhouse recently issued by one of the medical inspectors of the Local Government Board seems likely to revive the whole question which for some time has been allowed to lie dormant. In Barnhill poorhouse, where most of the inmates are infirm and aged people, the medical inspector found 178 cases of phthisis requiring treatment in bed, and not isolated from the other inmates of the institution. The Local Government Board, on the strength of this report, has called upon the parish council to make more suitable provision for these patients. Naturally, under the circumstances, the parish council does not wish to spend more money on building in the present unsettled state of matters, and it urges that now is the time for the corporation to undertake the responsibility that really belongs to it in the matter.

The Oldmill Poorhouse Medical Officership.

The medical officership of the Oldmill poorhouse was frequently considered by the last parish council, but the salary offered for the duties of visiting medical officer was considered insufficient by the local branch of the British Medical Association, which body discountenanced acceptance of the post on the parish council's terms, and stipulated £150 as the minimum salary. A deadlock occurred, and the council remitted the matter to its successors for decision, an interim provisional appointment being made. At the meeting of the poorhouse committee of the new council on Dec. 27th last it was resolved by 5 votes to 4, after two hours' discussion, to offer £150 per annum, and to advertise for applicants. The medical man appointed will visit the institution, situated about 2½ miles from the centre of the city, every alternate day. It was also recommended that the council should offer £40 for a dispenser, the dispensing at present being done by the resident medical officer. An amendment was offered to appoint a resident male medical practitioner at a salary of £200 per annum, with board and residence. The recommendation will come up for consideration at the next council meeting.

Jan. 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Paupers and Pensions.

WITH the removal of the pauper disqualification a large number of old people took their discharge on Jan. 6th from the various union workhouses throughout the country, and many others were struck off the lists for outdoor relief. In the North Dublin union 84 inmates took their discharge, and about 150 people in receipt of outdoor relief were struck off the lists. In South Dublin union 174 inmates left the house on pensions, and there are said to be still some 400 claims under investigation, while some 350 have gone off the outdoor relief lists. In the Dublin unions alone it is calculated that nearly £6000 a year will be saved to the ratepayers. In country unions the figures are smaller, though in the south particularly they remain considerable.

Infantile Mortality in Dublin.

A conference is to be held in the Mansion House, Dublin, on Jan. 19th, to discuss the best means of dealing with infant mortality in Dublin and of securing the advantages of the Early Notification of Births Act recently adopted by the Dublin corporation. The summons to the meeting is signed by the Lord Mayor, the medical superintendent officer of health, and the masters of the various maternity hospitals in Dublin. The chief object is to organise a band of voluntary workers, under the control of the public health department, to aid young mothers and their infants, as has been successfully done in Edinburgh, Glasgow, and elsewhere.

Congress of the Royal Institute of Public Health.

Arrangements are being pressed forward for the congress of the Royal Institute of Public Health in Dublin next August. The authorities of Trinity College have granted the use of their buildings for the congress. There will be 16 sections, the chief of which are chemistry, pathology, bacteriology, veterinary science, engineering, architecture, education, vital statistics, tuberculosis, and town planning.

Zymotic Diseases in Dublin.

Scarlet fever is so prevalent in Dublin that the Cork Street Fever Hospital is taxed to the utmost. Eighty beds out of its 200 are occupied with this disease, many cases being of a severe type. So great is the congestion that the managing committee has had to issue a special appeal for funds. Diphtheria and whooping-cough are also prevalent.

Medical Man as High Sheriff.

Mr. J. B. Story, F.R.C.S.Irel., has been appointed High Sheriff of County Tyrone. Mr. Story is a member of Council of the Royal College of Surgeons in Ireland and surgeon to the Royal Victoria Eye and Ear Hospital, Dublin.

The Health of Belfast.

At the meeting of the city council of Belfast held on Jan. 2nd, the medical officer of health submitted the accompanying table showing the number of cases of infectious diseases notified during 1910 (calculated on the number notified during the 50 weeks ended Dec. 17th, 1910), as compared with 1906-7-8-9 :—

—	Typhus fever.	Typhoid fever.	Scarlet fever.	Simple continued fever.	Puerperal fever.	Small-pox.	Diphtheria.	Membranous croup.	Erysipelas.	Total.
1910 ...	7	97	719	16	14	—	232	5	260	1355
1909 ...	6	90	356	39	23	—	195	10	260	978
1908 ...	19	274	323	208	22	—	221	27	294	1388
1907 ...	—	356	531	270	29	1	257	37	341	1892
1906 ...	9	551	1193	366	17	—	233	40	340	2749

The table given below was included, showing the number of deaths and the average annual death-rate per 1000 of the population from all causes, and from zymotic diseases, typhoid fever, and phthisis during the year 1910, calculated as above, as compared with 1906-7-8-9 :—

Year.	All causes.		Zymotic diseases.		Typhoid fever.		Phthisis.	
	No.	Rate.	No.	Rate.	No.	Rate.	No.	Rate.
1910	7343	18·7	1109	2·8	19	0·04	833	2·1
1909	7028	18·2	511	1·3	20	0·05	811	2·1
1908	7523	19·5	689	1·8	57	0·15	880	2·3
1907	7870	21·3	615	1·7	82	0·22	926	2·5
1906	7379	20·1	905	2·5	90	0·24	1015	2·7

The extremely low typhoid death-rate in 1910—that is 0·04—is gratifying, but the high zymotic death-rate—2·8—is unsatisfactory, as is also the death-rate from all causes—18·7 (18·2 in 1909); and the abnormal phthisis mortality—2·1—shows no fall from the previous year. During 1910 1109 deaths from zymotic disease gave a rate of 2·8, largely due to the epidemics of measles (which caused 522 deaths) and whooping-cough. The infantile mortality in 1910 (up to Dec. 17th) was 144, as compared with 135 in 1909, 147 in 1908, 135 in 1907, and 143 in 1906. The rate in 1910 is largely attributable to the number of deaths from measles, of which 522, equal to a rate of 1·3 per 1000 population, were registered—as high a rate as that from all zymotic diseases in 1909. It is clear the

epidemics of measles and whooping-cough in 1910 brought about the high general death-rate (18·7), and the very high infantile mortality (144). In speaking on the matter the chairman of the public health committee referred to measles and whooping-cough as being "two diseases over which the corporation had very little control"; but clearly, as custodians of the public health, the corporation will have to take far stronger measures than it has done in the past to deal with these maladies, so terrible in their effects. A reduction in their mortality can be effected only by managing them like other zymotics, as the dispensary medical officers of health suggested in their resolution forwarded to the public health committee during the measles epidemic—that is, by notification, disinfection, and isolation in hospital. The high phthisis mortality (2·1) was ascribed at the meeting to Belfast becoming the consumptive dumping-ground for the North of Ireland. The corporation has passed a resolution forbidding the admission of anyone into the Forster Green Sanatorium, where there are municipal beds, unless after a residence of one year in Belfast, and the public health authorities allege that the board of guardians admit consumptives into the Abbey Sanatorium without any such stipulation, so that patients outside the Belfast area enter that institution. At a meeting of the guardians on Jan. 3rd, however, this was denied, and in a report from the Abbey Sanatorium committee it was stated that, as far as the officials could ascertain, the patients admitted into their sanatorium did belong to Belfast. The chairman of the sanatorium committee said that the shortest period of residence in Belfast before admission to the sanatorium had been six months. What is wanted in this discussion is the facts. If the Belfast city public health authorities raise a barrier against admitting any person into their sanatorium unless after a residence of a year in the city, the country boards will be sure to send back to the city all cases which leave Belfast or the surrounding districts.

David Taylor, M.D. Q.U.I.

News has just reached Belfast of the death of a well-known Ulster man, Dr. David Taylor, which occurred in November at Kinchunpore Tea Estate, Cachar, Assam. Born at Greyabbey, Co. Down, in 1857, the deceased was educated at the Belfast New Academy, at Queen's College, Belfast, and at St. Thomas's Hospital, London. In 1877 he obtained the M.D. of the old Queen's University of Ireland, and he became a Member of the Royal College of Surgeons of England in 1879. Proceeding to India, he settled at Hailalsandi, adding to his *clientèle* the Chotla Bhéel, and soon acquiring an extensive practice. A skilful physician, a sportsman, and of pleasing social qualities, he became very popular. Some years ago, on returning to Ireland, his friends in India presented him with a yacht—the *Dolphin*—which was a familiar craft in the North of Ireland. Finding, however, that the climate of Ireland did not suit him, Dr. Taylor returned to India in 1909. He was in the North of Ireland last year and again raced the *Dolphin* in Belfast Lough and in the Clyde. Dr. Taylor was a man of the most kindly disposition, and his good qualities endeared him to all those who knew him.

Jan. 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Medical Diplomas Granted during the Academical Year 1909–10.

IN the course of the academical year 1909–10 the French faculties of medicine granted 915 State diplomas and 52 university diplomas—i.e., a total of 967 diplomas of doctor of medicine. The period in question was moreover the first during which no diploma of *officier de santé* was granted. The number of diplomas given by some of the individual faculties was as follows: Paris, 450 State and 34 university diplomas; Algiers, 3 State diplomas; Bordeaux, 70 State and 3 university diplomas; Lyons, 109 State and 3 university diplomas; Montpellier, 120 State and 13 university diplomas; Nancy, 32 State and 2 university diplomas; Toulouse, 55 State diplomas; and Beyrout, 32 State diplomas.

Osteomalacia of Tuberculous Origin.

At a meeting of the Academy of Medicine held on Jan. 3rd M. Poncet and M. Leriche, speaking on the subject of osteomalacia, said that it was a disease of the bone marrow, and that it was due to a variety of causes acting in several different ways, but whatever its form or the date of its appearance might be, it consisted of a group of symptoms presenting some degree of clinical uniformity. Etiologically there were cases which might be said to be of ovarian, or suprarenal, or thyroid origin, according as the secretory functions of one or other of these three glands was insufficient or disordered, but such glandular lesions were only secondary causes of the disease, and it was important to know what were the primary causes of these pathological conditions. As a result of their personal observations M. Poncet and M. Leriche have proposed a new hypothesis—namely, that tuberculosis was often a primary cause of the disease. They considered that the infective action of the tuberculous virus was demonstrable both in essential diffuse osteomalacia and in partial osteomalacia. The latter form of the disease—i.e., the local manifestations which were so common in the tibia, in the femur, and in white swellings of the knee and the hip-joint, were not due either to general impairment of nutrition or to immobilisation, but were the result of tuberculous infection, which might be either latent or active and might affect either a neighbouring or a distant part.

Notification of Infectious Diseases in Algeria.

At the same meeting of the Academy of Medicine M. Vincent recommended that the list of diseases scheduled for compulsory notification should be enlarged by the addition of relapsing fever, Malta fever, trypanosomiasis and piroplasmosis in the human subject, and leprosy. In consequence of its great frequency, its severity, and the large amount of blindness which it caused in Algeria, he also recommended that granular ophthalmia should be added to the list. He said that children who had not received treatment or who were still in an infectious stage ought to be excluded from the schools. With regard to malaria, he spoke in favour of the observation of the endemic index—i.e., the determination of the percentage of children under 15 years of age whose blood contained the hæmatozoon, or, failing this examination, the determination of the percentage of children with enlargement of the spleen. Local inquiries ought also to be held with regard to the frequency of first attacks, the forms of the disease, and the preventive measures which had been taken or required to be taken, such as methods of dealing with the haunts and breeding-places of the anopheles, mechanical devices for protection against the insects, and other means to the same end. The public exhibition of placards in French and Arabic would be useful in spreading a knowledge of some elementary facts connected with malaria, such as the parts played respectively by mosquitoes, by former sufferers from the disease, and by children as carriers of germs.

Jan. 9th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Organisation of the Italian Schools of Obstetrics.

THE new regulations concerning the creation and organisation of the schools of obstetrics for the education of qualified midwives in Italy have now received the Royal sanction. It is now required that a midwife, to obtain the necessary qualification, shall have to undergo a course of practical as well as theoretical instruction at one of the above-named schools, to be created in every town in which there already exists a medico-surgical faculty or an institute for gynæcology and obstetrics, and also in the towns of Aquila, Bari, Catanzaro, Milan, Novara, Venice, and Vercelli. The schools in the latter towns will be under the direction of the universities in their neighbourhood; Naples in the case of the first three, Turin for Novara and Vercelli, and Padua for Venice. Every school will be under the direction of a professor, at least one assistant holding a qualification in medicine and surgery, and a mistress-midwife (*levatrice maestra*). The schools must be connected with a maternity hospital or any hospital containing at least 15 beds reserved for maternity

cases and in which the total births during a year do not fall below 120 cases. The number of students is limited to three times the number of available beds. To obtain the qualification of midwife the candidates must be at least 18 and not over 36 years of age, in good health, and not disabled by any deformity likely to interfere with their work. A certificate of elementary education or the matriculation qualification is required, as well as a statement regarding good conduct. Candidates must also have been vaccinated, and in the case of unmarried women the consent of the father or of a guardian must be produced. The course of training lasts two years, and is divided into a theoretical and practical part; the first lasts one year and consists in lectures given by the director of the school. Practical instruction begins simultaneously with the theoretical course, and this knowledge is acquired at the bedside. Candidates will have to pass two examinations to obtain their qualification; the first will take place at the end of the first year, i.e., at the end of the theoretical course, and the second at the close of the second year. The first examination is to consist of a reply in writing to two questions, four hours being allowed (the paper must be written without any help) and an oral examination lasting half an hour. In the practical examination the candidate will have to send in a paper dealing with two cases treated by her under the guidance of the director or of his assistant; in addition there will be an oral examination lasting at least one hour, and dealing particularly with the report of the two cases sent in and also with the principal obstetric manipulations to be performed on the child, diagnosis of pregnancy, exploration, assistance at birth, the dangers and the precautions to be observed in the case of complications, and the duties of midwives in the exercise of their calling. The following scale of fees for candidates has been established:—

Matriculation tax ...	12*s.*	
Inscription tax ...	32*s.*	for the course of two years.
Examination fee ...	19*s.* 2*d.*	
Tax of diploma ...	8*s.*	

The examination fee will be divided in equal parts among the examiners. There are at present about 14,000 women practising as midwives in Italy.

Jan. 7th.

Obituary.

EDWARD HOWARD COLLENS, M.B. LOND., L.R.C.P. LOND., M.R.C.S. ENG.

THE medical profession of Herefordshire has sustained a severe loss through the death at Vienna on Dec. 18th, 1910, of Edward Howard Collens, a week after undergoing an operation for the removal of a pituitary tumour. He had been under the joint care of Professor v. Frankl-Hochwart, Professor v. Eiselsberg, and Dr. O. Hirsch, by whom the operation was performed. The actual cause of death was broncho-pneumonia. He was born in Stourport in 1872 and attended the medical school of Mason College, Birmingham. In 1898 he obtained the Membership of the Royal College of Surgeons of England and became a Licentiate of the Royal College of Physicians of London, taking his degree M.B. Lond. in 1899. He was house surgeon at Queen's Hospital, Birmingham, and in 1901 went to practise in Hereford, where he gained the esteem of his colleagues and the affectionate regard and confidence of his patients. He was on the staff of the Hereford Provident Dispensary and for several years was superintendent of the fever hospital and police surgeon. He took a great interest in police ambulance work and trained the men under his charge with great success. He leaves a widow to mourn her loss.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Lindmann, President of the Medical Council of the Archduchy of Baden.—Dr. Hermann Kestner, district physician of Mülhausen in Alsace, a grandson of Charlotte Kestner, whose maiden name was Buff, and who was the original of Goethe's Lotte in his "Sorrows of Werther." Dr. Kestner had been in retirement three or four years. He was 86 years of age. His father was the seventh son of Charlotte Kestner.—Professor Sprengel, privy medical councillor of Brunswick.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF ENGLAND.—At the First Professional Examination of the Conjoint Examining Board held on Jan. 3rd, 4th, 5th, and 6th the following candidates were approved in the undermentioned subjects:—

Chemistry and Physics.—Johannes Willem Bouwer, London Hospital; Arthur Bulleid, Guy's Hospital; David John Evans, Epsom College and St. Thomas's Hospital; Ilse Fischer (Miss), Leeds University; John Vaughan Griffith, Liverpool University; William Tudor Gwynne-Jones, London Hospital; William Llewellyn Aplin Harrison, St. Mary's Hospital; Vincent Coram James, Middlesex Hospital; William Baly Jepson and Noël Sigismund Koch, St. Bartholomew's Hospital; Charles William Lakin, Guy's Hospital; Henry Guy Ludolf, Leeds University; James McDonnell, London Hospital; William Hubert Milligan, St. Thomas's Hospital; Harold Dobson Pickles, Leeds University; David John Platts, King's College; Robert Mowat Reid, St. Bartholomew's Hospital; Khan Sahib, St. Thomas's Hospital; Bryan Montague Tuke, Middlesex Hospital; and José Victory, Costa Rica and Guy's Hospital.

Chemistry.—Kenneth Leslie Bates, Guy's Hospital; Reginald Naunton Bates, Liverpool University; John Behesnilian, Charing Cross Hospital; Percy Herbert Burton, London Hospital; Arthur Stanley Carter, Middlesex Hospital; Henry Judson Grimshaw, Liverpool University; Henry Barry Hyde, St. Thomas's Hospital; John Robert John, University College, Cardiff; Philip Savage, Guy's Hospital; Noel Archibald Scott, St. Bartholomew's Hospital; Arthur Dighton Stammers, London Hospital; David Page Thomas, St. Bartholomew's Hospital; John Aylmer Tippet, St. Thomas's Hospital; Jurin Totton, Guy's Hospital; Walter Aslatt Turner, Hartley University College, Southampton; and Henderson Whyte, London Hospital.

Physics.—John Andrew, South Western Polytechnic, Chelsea; Joseph Herbert Bayley, London Hospital; Alfred Allwright Brown, Birkbeck College; William Barnes Buer, Guy's Hospital; Edmund Sheppard Cuthbert, St. Bartholomew's Hospital; Herman Gerald Dresing, Guy's Hospital; John Fox-Russell, Middlesex Hospital; Colin Charles Gordon Gibson, Guy's Hospital; Kenneth James Menteith Graham, St. Mary's Hospital; Gustaf Hahr, Polytechnic Institute, Regent-street; Richard Annesley Holmes and Lancelot Horsley, Guy's Hospital; Ernest Gwyn Howell, University College, Cardiff; Alexander Joseph Vincent McDonnell, London Hospital; Warre Harriott Alexander Pratt, Guy's Hospital; and Roy Bingley Pullin and Harold Ernest Pierpoint Yorke, St. Bartholomew's Hospital.

Biology.—John Gordon Ackland, Royal Albert Memorial College, Exeter, and St. Bartholomew's Hospital; Percy William Lavers Andrew, Middlesex Hospital; Kenneth Leslie Bates, Guy's Hospital; Johannes Willem Bouwer, London Hospital; William Alexander Clements, Manchester University; Oliver Francis Conoley, London Hospital; Herbert Carr Duggan, Guy's Hospital; John Eric Evans, Liverpool University; Moustafa Fahmy, Cairo, and London Hospital; Ilse Fischer (Miss), Leeds University; James Douglas Fleck, St. Mary's Hospital; William Tudor Gwynne-Jones, London Hospital; Alfred Riadon Hacker, King's College; George Harris Haines, University College Hospital; Douglas Vernon Halstead, Guy's Hospital; Walter Owen Hughes, Liverpool University; Vincent Coram James, Middlesex Hospital; William Baly Jepson, St. Bartholomew's Hospital; Charles William Lakin, Guy's Hospital; Marie Gertrude Gwendoline Calvert Link (Miss), South Western Polytechnic Institute; Noel Heathcote Seton Maelzer and Lancelot Turtle Montgomery, Guy's Hospital; Henry Maurice Peacock, Birkbeck College; Roy Bingley Pullin, St. Bartholomew's Hospital; Bertram Pyman, University College, Cardiff; Norman Ward Rawlings, Manchester University; Noel Archibald Scott, St. Bartholomew's Hospital; Mian Mohammad Shafi, London Hospital; Walter Aslatt Turner, Hartley University College, Southampton; and Francis Bernard Yonge, Middlesex Hospital.

SOCIETY OF APOTHECARIES OF LONDON.—At the Primary Examination, Parts I. and II., held on Jan. 2nd, 4th, and 5th, the following candidates passed in the subjects indicated:—

Chemistry.—C. A. Hepburn, Manchester.

Materia Medica and Pharmacy.—H. Cox, Birmingham, and R. Jones, Charing Cross Hospital.

Anatomy.—A. Abdelal, Guy's Hospital; D. Blair, Glasgow; H. Dudley, University College Hospital; N. E. Farr and F. C. Godding, Guy's Hospital; G. B. Holroyd, London Hospital; R. Jones, Charing Cross Hospital; H. E. Rose, Cambridge; and A. H. Taymour, Guy's Hospital.

Physiology.—A. Abdelal, Guy's Hospital; H. Dudley, University College Hospital; F. C. Godding, Guy's Hospital; R. Jones, Charing Cross Hospital; and H. E. Rose, Cambridge.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce the impending publication of "A Manual of Gynæcology," by Dr. T. W Eden, obstetric physician to Charing Cross Hospital. The object of the book, which is a companion volume to the same author's "Manual of Midwifery," is to present a comprehensive account of the diseases of women from the standpoint of pathology and treatment. The same publishers will shortly issue a book by Dr. J. B. Hurry of Reading on the subject of "Vicious Circles in Disease."—"A Text-book of Gynæcological Surgery," by Dr. Comyns Berkeley and Mr. Victor Bonney, is

announced for publication by Messrs. Cassell and Co. at the end of January. It represents the surgical experiences the authors have gained at the Middlesex Hospital and the Chelsea Hospital for Women, and is illustrated with nearly 400 drawings from the pencil of Mr. Bonney.

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.—A course of eight lectures on the Physiological Significance of Amines, will be delivered by Dr. H. H. Dale in the Physiological Institute, on Fridays, at 4.30 P.M., commencing Jan. 20th. These lectures are open, without fee, to all internal students of the University of London, and to such other persons as are specially admitted.

PRESENTATION TO A MEDICAL PRACTITIONER.—In the Auckland, New Zealand, City Council Chamber on Nov. 10th last Mr. Robert Stopford, L.R.C.P. Irel., and his wife, who are leaving Auckland to take up their residence in Sydney, were presented with a handsome tea and coffee service, a claret jug, and a hot-water jug by Mr. Stopford's friends and patients. Mr. Stopford was also presented with an illuminated address and chiming clock.

DONATIONS AND BEQUESTS.—The late Mr. John Bradshaw of Cheltenham has bequeathed £1000 to the Lancaster Royal Infirmary to endow a "John Bradshaw bed," £500 to the Manchester Royal Infirmary, £200 to the Cheltenham General Hospital, and £100 to the Harrogate Infirmary.—The late Mrs. Elizabeth Baker of Castle Wivelliscombe, Somerset, has left £10,000 each to the Bristol General Hospital and the Hospital for Consumptives, Winsley, Wiltshire.—The residue of the estate of the late Mrs. Gulielma F. Moss, amounting to about £15,000, has been bequeathed by the testatrix to Bolingbroke Hospital.—Under the will of the late Miss H. L. Maw the Manchester Royal Infirmary and the Lincoln County Hospital will each receive £1000 for the endowment of memorial beds in perpetuity.—The late Mr. S. Staniforth bequeathed £1000 each to the Sheffield Royal Infirmary and the Sheffield Royal Hospital, £300 to the Jessop Hospital for Women, Sheffield, and £200 to the Sheffield Children's Hospital.—The late Mr. J. Kershaw, F.R.C.S. Edin., left by will £50,000 for the erection of a hospital at Royton, Lancashire.—Lady Meux has left by will £1000 free of legacy duty towards the endowment of the Cheshunt Cottage Hospital.

PUBLIC HEALTH ADMINISTRATION IN TREGARON RURAL DISTRICT.—One of the most satisfactory and gratifying features of the many meetings which have been held during the past few months in various parts of Wales in connexion with the scheme for combating consumption is the reiteration by different speakers of the great need for effecting improvements in the sanitary condition of rural districts. At one such meeting, held at Aberystwith on Dec. 19th last, it was pointed out that there was an appalling amount of ignorance on sanitary matters, and that sanitary authorities must be stimulated into taking action to remedy existing conditions by the force of public opinion. While the county of Cardigan, from its situation and other favourable circumstances, should be one of the healthiest districts in the country, it has a higher death-rate from consumption than any other county in England and Wales. If the remaining sanitary authorities in the county of Cardigan are as indifferent to their responsibilities as the Tregaron rural district council appear to be there is ample justification for the statements referred to. In a report presented to the Local Government Board in 1907 by Dr. E. P. Manby concerning that district it was stated that the inspector of nuisances was in receipt of a salary of 11*s.* 6*d.* weekly. The area of the rural district is 189 square miles, and it contains about 2000 houses. Latterly the inspector's salary has been increased to £50 per annum, and he has devoted three days a week to his duties. In a communication read at a meeting of the district council on Dec. 20th last the Local Government Board stated that the duties of the inspector of nuisances could not be performed satisfactorily if so short a period was devoted to them, having regard to the amount of travelling necessary, and suggested that an adequate salary should be paid for whole-time services. The members of the council expressed indignation at what one member described as the unreasonableness of the council being overridden by a number of clerks in London, and it was seriously suggested that the services of an inspector should be dispensed with altogether. If any doubt could exist of the necessity of sanitary officers in the Tregaron rural district that doubt would be dissipated by even a cursory perusal of Dr. Manby's report. It is there stated that internally the conditions of many of the cottages are often far from satisfactory—e.g., floors of bare earth, walls damp, and rooms insufficiently lighted and ventilated. Houses are built back to earth and have no through ventilation. Windows are of small size and many do not open. This want of ventilation, in its possible relation to the high death-rate from phthisis, has been frequently referred to by the medical officer of health, and the council, in Dr. Manby's opinion, had been neglectful of its duty in not endeavouring to secure in systematic manner the improved lighting and ventilating of dwellings in their district. Other conditions reported on adversely by Dr. Manby make it abundantly evident that there is plenty of work ready to the hand of an energetic sanitary officer if he only receives the support from the sanitary authorities to which he is entitled.

THE FIGURES OF STATE EDUCATION.—A White Paper (Parliamentary Paper No. 338) was issued during the week above Sir Robert Morant's signature, entitled "Return Showing the Number of Boys and Girls Respectively on the Admission Registers of Ordinary Public Elementary Schools in England and Wales on the 1st Day of October in the Years 1907 and 1908, Arranged According to their Years of Age under the Areas of Local Education Authorities for Elementary Education." The form is dated Nov. 25th, 1910. In England on Oct. 1st, 1908, there were 5,637,340 boys and girls included in the return, of whom 11,170 were in schools not maintained by the local education authorities under Section 15. Of this number 2,842,415 were boys and 2,794,925 were girls. In Wales on the same date there were a total of 441,798 children included, of whom 223,040 were boys and 218,758 were girls. The grand total of England and Wales for Oct. 1st, 1908, was therefore 6,079,138 elementary school scholars. In London there was a total of 740,262 such scholars, of whom 372,988 were boys and 367,274 were girls.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, J. B., ET FILS, Paris.

Consultations Médicales. Maladies de l'Appareil Digestif et de l'Appareil Respiratoire. Par H. Huchard, Membre de l'Académie de Médecine, Médecin de l'Hôpital Necker. Price Fr.12.

BERTHIER, O., LIBRAIRE MÉDICALE (ÉMILE BOUGAULT, Successeur), 77, Boulevard Saint-Germain, Paris.

Formulaire Clinique et Thérapeutique pour les Maladies des Enfants. Par le Dr. Albert Veillard, Médecin Consultant à Vichy. Cinquième Édition, revue et mise au courant des Nouveautés thérapeutiques conforme au nouveau Codex. Price Fr.4.

COMPANIA SUD-AMERICANA DE BILLETES DE BANCO, Chile, 263, y Cangallo, 559, Buenos Aires.

Cirurgia Ortopédica. Los Transplantes Tendinosos en el Tratamiento de la Parálisis Infantil. Por los Doctores Marcelino Herrera Vegas y José M. Jorge (Hijo). Price not stated.

CONI HERMANOS, IMPRENTA DE, 684, Perú, Buenos Aires.

Pioneumoquistes Hidáticos del Hígado. Por el Dr. Marcelino Herrera Vegas y el Dr. José M. Jorge (Hijo). Price not stated.

Tratamiento del Espasmo Pilórico en la Primera Infancia. Por el Dr. Marcelino Herrera Vegas. Price not stated.

FISCHER, GUSTAV, Jena.

Lehrbuch der Augenheilkunde. Herausgegeben von Dr. Theodor Axenfeld. Zweite Auflage. Price, paper, M.14; bound, M.15.

Lehrbuch der Chirurgie. Herausgegeben von Prof. Wullstein und Prof. Wilms. Zweite umgearbeitete Auflage. Zweiter Band. Bauchdecken, Leber, Milz, Pankreas, Magen. Darm, Hernien, Harn- und Geschlechtsorgane und Becken. Price, paper, M.8; bound, M.9.

Vorlesungen über Infektion und Immunität. Von Dr. Paul Th. Müller. Dritte erweiterte und vermehrte Auflage. Price, paper, M.7; bound, M.8.

Handbuch der Vergleichenden Physiologie. Herausgegeben von Hans Winterstein in Rostock. Elfte Lieferung. Band III. Physiologie der Energieproduktion, Physiologie der Form. Zweite Hälfte. (Das Handbuch erscheint in etwa 30 Lieferungen zum Preise von je 5 Mark.)

G. HIRTHS VERLAG, G.m.b.H., München.

Der elektrochemische Betrieb der Organismen und die Salzlösung als Elektrolyt und Elektrogenet. Eine Programmschrift für Naturforscher und Aerzte. Von Georg Hirth. Dritte vermehrte Auflage. (Drittes Tausend). Price not stated.

KARGER, S., Berlin.

Jahrbuch für Kinderheilkunde und Physische Erziehung. Unter Redaktion von O. Heubner, Th. Escherich, A. Czerny. 72. der dritten Folge 22 Band. Heft 6. Augegeben am 10 Dezember, 1910. Price not stated.

MASSON ET CIE, Paris.

Traité d'Histologie. Par A. Prenant, Professeur à la Faculté de Médecine de Paris, P. Bouin, Professeur à la Faculté de Médecine de Nancy, et L. Maillard, Professeur agrégé à la Faculté de Médecine de Paris. Tome II. Histologie et Anatomie Microscopique. Par A. Prenant et P. Bouin. Price Fr.50.

Séparation Endo-Vesicale des Urines et Cathétérisme de l'Utère. Par M. Georges Luys. (Extrait de La Presse Médicale.) Price not stated.

Séparation Intra-Vésicale des Urines et Cathétérisme des Uretères. (Extrait de La Presse Médicale.) Price not stated.

PROGRÈS MÉDICAL, ADMINISTRATION DU, 41, Rue des Écoles, Paris.

Medicus. Guide-Annuaire des Étudiants et des Praticiens. Médecine, Chirurgie, Odontologie, Pharmacie. 33e Année 1910–1911. Price Fr.5. L'Agenda de Medicus. 1910–1911. (A separate diary; price not stated.)

SPRINGER, JULIUS, Berlin.

Allergie. Von Dr. Clemens Frh. von Pirquet, o.ö. Professor der Kinderheilkunde an der Universität Breslau. Price M.3.60.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Die Therapie an den Berliner Universitäts-Kliniken. Herausgegeben von Dr. Wilhelm Croner. Fünfte Auflage. Price M.12.

Fortschritte der Naturwissenschaftlichen Forschung. Herausgegeben von Prof. Dr. E. Abderhalden, Berlin. Zweiter Band. Price, paper, M.12; bound, M.14.

VOGEL, F. C. W., Leipzig.

Die Störungen der Sprache. Versuch einer Pathologie der Sprache Von weil. Dr. Adolf Kussmaul, Professor in Strasburg. Vierte Auflage. Herausgegeben und mit Kommentar versehen von Professor Dr. Hermann Gutzmann, Leiter des Universitätsambulatoriums für Sprachstörungen zu Berlin. Price M. 10.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BATTERSBY, JOHN, M.B., Ch.B. Manch., L.D.S. Eng., has been appointed Honorary Dental Surgeon to the General Hospital, Nottingham.

CRABB, R. L., M.B., B.S., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at University College Hospital.

DOBBS, A. F., M.B., B.S. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Athlone District of the county of Westmeath.

DORRELL, E. ARTHUR, F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Royal Eye Hospital.

DOYLE, WILLIAM, M.B., C.M. Glasg., has been appointed Medical Officer to the Colne Town Council, Lancashire.

DWYER, H. DE B., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator of the Banbury District of the Banbury Union.

KEMP, E. W., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Horbury District of the county of Yorks, West Riding.

MCRAE, D. J., M.B., B.Ch. Edin., has been appointed Second House Surgeon at the Birmingham and Midland Eye Hospital.

MARTIN, J. BIRCH, M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at the Birmingham and Midland Eye Hospital.

PHILLIPS, JAMES, F.R.C.S. Edin., has been appointed Honorary Surgeon to the Bradford Royal Infirmary.

ROBERT, J. X., M.B. Tor., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Surgical Officer at the Birmingham and Midland Eye Hospital.

WALKER, F. J., M.D. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Spilsby District of the county of Lincoln.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRADFORD ROYAL INFIRMARY.—Honorary Assistant Surgeon.

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House Surgeon, unmarried. Salary £120 per annum, with apartments, board, &c.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing.

BRISTOL ROYAL INFIRMARY.—Two House Physicians and One House Surgeon. Salary £100 each per annum. Also One Obstetric and Ophthalmic House Surgeon, and One Throat, Nose, and Ear House Surgeon. Salary £75 each per annum. Also Casualty Officer for six months. Salary £50 per annum. Apartments, board, and laundry are provided. Also Honorary Dental Anæsthetist. Also Honorary Medical Registrar.

BURNLEY, VICTORIA HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with residence, board, and washing.

CAPETOWN, SOUTH AFRICAN COLLEGE, South Africa.—Two Professors of Human Anatomy and Physiology. Salary at rate of £500 per annum.

CHELTENHAM GENERAL HOSPITAL, BRANCH DISPENSARY.—Resident Surgeon. Salary £180 per annum, with rooms, coal, and gas.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, lodging, and washing.

CLINICAL RESEARCH ASSOCIATION.—Assistant Director. Salary £250 per annum.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum, with board, washing, and residence.

DUDLEY DISPENSARY.—Resident Medical Officer. Salary £180 per annum, house, &c.

EARLSWOOD ASYLUM, Redhill.—Junior Assistant Medical Officer, unmarried. Salary £130, with board, lodging, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician. Salary at rate of £75 per annum, with board, residence, laundry, &c.

EAST SUSSEX COUNTY COUNCIL.—Assistant School Medical Officer. Salary £250 per annum.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £72 per annum.

HARRIS PARISH COUNCIL.—Medical Officer and Public Vaccinator. Salary £110 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Surgeon. Also Additional Honorary Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £30, with board and residence. Also Fourth Anæsthetist. Salary £15 15s. per annum.

HULL ROYAL INFIRMARY.—Assistant House Surgeon. Salary £100 per annum, with board and lodging.

LEWES DISPENSARY AND INFIRMARY AND VICTORIA HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with apartments, board, washing, &c.

LINCOLN CITY EDUCATION COMMITTEE.—Assistant School Medical Officer and Assistant Medical Officer of Health. Salary £250 per annum.

LONDON HOSPITAL, WHITECHAPEL, E.—Medical Registrarship. Salary £100 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Director in the Clinical Laboratory. Salary £75 per annum.

MARGATE, ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary £120 per annum, with board and residence.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with apartments, board, washing, &c.

OLDHAM UNION WORKHOUSE.—Resident Medical Officer. Salary £130 per annum, with apartments, washing, and attendance.

QUEEN ALEXANDRA SANATORIUM, Davos.—Junior Pathologist and Bacteriologist.

ROTHERHAM HOSPITAL.—Senior House Surgeon. Salary £110 per annum, with board, lodging, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Clinical Assistant.

ST. JOHN'S WOOD AND PORTLAND TOWN DISPENSARY, 96, St. John's Wood-terrace, N.W.—Third Medical Officer. Salary, midwifery and vaccination fees and a third proportionate share of an honorarium of £150.

SHEFFIELD, CITY EDUCATION COMMITTEE.—Dental Surgeon for Elementary Schools. Salary £250 per annum.

SOUTHAMPTON, FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.—Clinical Assistants.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Creech St. Michael, in the county of Somerset.

Births, Marriages, and Deaths.

BIRTHS.

BARNES.—On Dec. 28th, 1910, at New-road, Chatham, the wife of Harold Abbott Barnes, M.B., B.A. Oxon., of a son.

DONALD.—On Dec. 27th, 1910, at Liskeard, Cornwall, the wife of John Donald, M.D., of a son.

HULBERT.—On Jan 3rd, at Muttra, U.P., India, the wife of Major J. G. Hulbert, I.M.S., of a son.

PEDLEY.—On Jan. 6th, at "Maples," Orpington, the wife of S. E. Pedley, M.R.C.S., L.R.C.P., L.D.S., of a daughter.

SALL.—On Jan. 4th, at Mount Zeehan, Canterbury, the wife of E. F. Sall, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

UPWARD.—On Jan. 3rd, at Edfu, Romford, the wife of Harold Upward, M.B., of a daughter.

DEATHS.

APPS.—On Dec. 26th, 1910, at Nablus, Palestine, Harriett Amelia Rachel Apps, M.B., B.S., of the C.M.S. Hospital, aged 30 years.

BRICKWELL.—On Jan. 10th, at Chigwell, Essex, Henry Taylor Brickwell, M.R.C.S., L.S.A., aged 64 years.

CORNISH.—On Jan. 10th, 1911, Edward Cornish, M.R.C.S. Eng., L.R.C.P. Lond., of sarcoma, at Bayswater, aged 47. R.I.P.

DAVIES.—On Jan. 9th, at Nutcombe, Sketty, Glamorganshire, Ebenezer Davies, M.R.C.S., aged 81 years.

PITCAIRN-BOOKLESS.—On Jan. 4th, at Ormiston, Eastbourne, James Pitcairn-Bookless, M.D. Edin., in his 66th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE RUBAIYAT OF SMITH TERTIUS.

UNDER this heading the *Manchester Daily Sketch* published at Christmas time some very clever verses, the concluding stanzas of which we quote. The earlier part of the ballad states how Smith Tertius speculates on the risks attending Christmas cheer, of which he has haunting memories, but decides that—

..... The Doctor, not the Saint, shall be his guide
And teach him mix his merriment with sense.

This resolution is strengthened by the appearance of an annotation in THE LANCET on the hygienic merits of the usual Christmas menu, and Smith Tertius sings:—

Then lo! *The Lancet*, hot from off the Press,
Acquits his Christmas cheer of harmfulness:
Both Bird and Pudding are innocuous
Unless they be indulged in to Excess.
Is this some new thing in the way of Traps
Placed by a set of foxy doctor-chaps
To lure unwary ones within their reach?
He ponders long and hesitates. Perhaps.
Would it conduce to less internal Strife
If I decide to lead the Simple Life,
And sparingly upon digestive bread
I spread my Nutter with blood-guiltless Knife?
Perhaps. But then just think what arrogance it
Would be to doubt the dicta of *The Lancet*;
And so, whatever Eustace Miles may say,
To-morrow, anyhow, I mean to chance it.

ENCEINTE.

To the Editor of THE LANCET.

SIR,—With reference to your note in THE LANCET of Dec. 31st, 1910, p. 1947, on the etymology of the word *enceinte* as applied to pregnancy, I have come across the following definition and quotation in Cassell's Encyclopædic Dictionary—viz., Cloister (O. Fr. *cloistre*; Fr. *cloître*, from Lat. *claustrum* = (1) an enclosure; (2) a cloister). The figurative meaning is given as "Any place in which one is shut up, specially the womb." The quotation is: "As he brak not Maries *cloister* whanne that she was maad with childe.—*Wycliffe*: Select Works, 1., 318." This is quoted, I suppose, from the manuscripts of the renowned John Wycliffe (1324–1384), a catalogue of which, I learn, was printed at the Clarendon Press in 1865 by the Rev. W. W. Shirley, ecclesiastical historian. The use of the word "cloister" so long ago and the definition that *cloître* is "*enceinte (des maisons des chanoines)*" (Boiste) are significant facts, so that the French expression, "*Elle est enceinte*," could be translated into English to-day, if we had retained and shortened the old expression used by Wycliffe, as "She is cloistered." I think it is plain from this quotation that the womb was then regarded as an *enclosure*—that is, as an *enceinte* or *clôture*.

I am, Sir, yours faithfully,

London, Jan. 6th, 1911. BLANCUS.

A MEDICAL JOURNAL IN ESPERANTO.

Internacia Medicino (Kötzschenbroda-Dresden, H. F. A. Thalwitzer, pp. 32, price 6*s.* annually) is the title of a medical journal published monthly as the official organ of the Tutmonda Esperanta Kuracista Asocio, which signifies the International Esperanto Physicians' Association. It is edited by Professor H. Dor of Lyons, with the assistance of 21 collaborators in various countries, and contains, besides four pages of official information concerning the aforesaid society, articles on a New Mode of Dressing Wounds, by Dr. v. Oettingen, of Wilmersdorf; an address delivered by *Privat-docent* Kabanov, of Moscow, at the memorial meeting for Professor Ostroumov, on the Biologic Method of Clinical Examination of the Sick; Visible Speech for Deaf-mutes, by Dr. Spillmann, of the U.S. Bureau of Agriculture; the Dental Clinic and Dental Surgeon, by Dr. Klein, director of the Dental Clinic at Ulm; Ehrlich-Hata "606"; Obituaries of Ernst v. Leyden and Henri Dunant; and some pages of abstracts from current medical literature. It does not seem difficult for one with the necessary medical knowledge and a very moderate linguistic smattering to gather the sense of whole paragraphs at first glance. As the journal is sent gratis to the members of the above-named society, which we are told numbered in its second year, at the beginning of 1910, upwards of 600 physicians of various nationalities, literally "from China to Peru," it is obvious that the new language must be not only maintaining its ground, but making progress. The writers do not seem to fear to undertake translation into it of highly technical matters, and if they are understandable without danger of misapprehension by Esperanto readers, it is certainly a testimony in favour of the language.

MOUNTAIN SICKNESS ON A TRANS-ANDINE RAILWAY.

AN article published in the *Engineer* of Dec. 23rd, 1910, gives a variety of particulars relative to a railway which is now in course of construction from Arica on the Pacific Coast of Chile across the main range of the Andes to La Paz, the capital of Bolivia. The line will have a total length of 280 miles and the highest portion of it will have an altitude of 14,000 feet. There are already two trans-continental railways in South America and it has been found that Europeans as a general rule are so injuriously affected by the diminution of atmospheric pressure at such an altitude that in all probability they would not be able to do at it one-half of the work of which they would be capable on the coast. Experience has shown that the output per man, even at altitudes of only 6000 feet or 9000 feet, has been reduced by fully 20 per cent. A large proportion of foreigners who make their way to these high altitudes never completely overcome the disease of *siroche*, or mountain sickness, and a few suffer so much that they are compelled to return to the lower levels almost at once. In addition to *siroche* extraordinary fluctuations of temperature will have to be encountered, for it is asserted that at one point on the line—namely, the headquarters at Mauri River—the temperature may pass from − 27° C. to + 24° C. (a difference of 90° F.) in 24 hours.

THE FOUNDER OF "THE LANCET."

To the Editor of THE LANCET.

SIR,—In THE LANCET of Dec. 17th, 1910, page 1809, there is a reference to the founder of THE LANCET extracted from "Memoirs of Life and Work" by Dr. Charles J. B. Williams, F.R.S. The personality of Thomas Wakley struck so many persons that allusions to him abound not only in biographies where he is mentioned by name, but in essays and novels where he is alluded to as "the Crowner." A passage in "Friends of Bohemia," by R. M. Whitty, runs as follows:—

"There's Mr. Crowner, a veritable London man, as well known and as much a part of the metropolis as Temple Bar, a famous man in London, and outside London unknown. For we have our parish heroes, just as little Peddlington has. Crowner has lately got up a Commission of Chemists, and has proved that all our tradesmen adulterate all their goods. That ought to suggest a revolution, ought it not? But it hasn't made much sensation; and Crowner hasn't been assaulted or poisoned. The fact is, we expect to be swindled in England."

The suggestion that Thomas Wakley was unknown outside London is quite wrong, as the journalism of the day shows.

Edward Michael Whitty, who wrote the novel from which this passage is taken, was a well-known journalist who lived in the first half of the nineteenth century and at one time was employed as a Parliamentary summary writer on the *Times*. He was also on the staff of the *Leader*, where his sketches of proceedings in Parliament, which were marked by great vigour and a considerable power of sarcasm, were probably the forerunners of the Parliamentary sketch to-day so familiar to us all. Some of his newspaper articles have been collected and published, with additions, in book form under the title of "The Governing Classes of Great Britain: Political Portraits," and the phrase "governing classes," though used by Carlyle in Cromwell's Letters and Speeches, has been identified with Whitty's book. "Friends of Bohemia, or Phases of London Life" owed its birth to a quarrel between Whitty and his old friends on the *Leader*, whom, I learn from the "National Dictionary of Biography," he here ridicules in pungent style. The day has gone by when the points of the satire can be recognised, and the whole humour of the book has altogether evaporated. In its time it had a vogue, while it represents, I have heard, extraordinary literary dexterity on the part of its author, for he is said to have written it in a fortnight.

I am, Sir, yours faithfully,

Wimpole-street, W., Jan. 2nd, 1911. BOOKWORM.

DIRT AND DISEASE AMONG SAVAGES.

THE homely scrubbing housewife, so much despised in certain quarters to-day, has, when we seriously consider her place in civilisation, played an immense prophylactic part during the ages. To her pail, broom, clouts, and soap is greatly owing the fact that dirt diseases do not become endemic, especially in the poorer quarters of towns. Disease, indeed, may be said to increase in direct proportion to the neglect of rubbing and scrubbing. This becomes particularly apparent when we consider savages, among whom housewifery is either rudimentary or unknown. Thus, according to Captain Schmitter of the Medical Corps of the United States Army, who has recently published a report in the Smithsonian Miscellaneous Collections, the Indians of the Upper Yukon have, since the arrival of the white man on his way to the goldfields, undergone a great and evil change in the matter of personal hygiene. In the past, according to George Maltock, who visited Alaska in 1885, "small-pox and diphtheria struck them in epidemics, but they either died or soon recovered." Their wandering life led them constantly to abandon infected localities as well, it must be confessed, as sick members of their tribes. Now, with the advent of the white man, the Indians are no longer nomadic, and the conditions prevalent have become appalling. Says our authority: "The Indians never wash more than their face and hands, and are

consequently exceedingly filthy. Pediculosis and tuberculosis are ever-present indications of their unclean habits." The mediæval town, the slums of which were crowded with windowless hovels, may be said to have originated, or at least intensified, tuberculosis in Europe. The cabins of these Indians of the Upper Yukon suggest the Middle Ages. They are "as offensive as their (the owners') persons. They have no methods of sanitation. Tuberculosis far outweighs all other ailments. On entering the village one notices everywhere evidence of tuberculosis in the forms of humpbacks, hip-disease, scrofula, consumptive cough. Very few natives can be given a complete physical examination without disclosing some evidence of tuberculosis. Tonsillitis, respiratory disease, digestive troubles, and myalgia are ever present. Diphtheria, according to hearsay, kills off many in occasional epidemics." Yet these savages crowd to the hospital and are devoted amateurs of the out-patient department. They are bad patients, for they object to physical examination, though fond of medicine. In this they do not differ from their Western congeners. The medicine-man, who is also a magician, is their mainstay. He sings to drive away disease. It is suggested that a Government Commission should be appointed to teach them the simpler rules of hygiene, but savage custom dies hard, and these Indians are a doomed race.

ALLEGED FORGERY BY A MEDICAL MAN.

Arthur Harrison, aged 47 years, once a medical student and described as a physician and surgeon, of Trinity-square, Borough, has been charged with uttering a cheque forged in the name of Dr. I. Burney Yeo. The prisoner made an explanation in which he referred to a letter received by him from Dr. Burney Yeo, from which he conceived and put in practice the idea of obtaining a cheque-book and forging cheques on Dr. Yeo's account. The truth of this matter is that Dr. Yeo, in response to a letter from the prisoner, who claimed to be an old King's College Hospital man, then in St. Bartholomew's Hospital as a patient partially paralysed, and asking for a subscription to a translation of Mosso's "La Paura," sent him a cheque for £1 as a subscription for four copies, and received a letter of profuse thanks also from the hospital. The prisoner admitted forging the cheque and also five others. Two cheques respectively for £60 and £10, both purporting to be signed by Dr. Yeo, were found on him when he was arrested. There were previous convictions against him and he was found guilty at the Central Criminal Court.

BOVRIL PICTURES.

WE have received from Bovril, Limited, a framed artist's proof of their latest bonus picture, entitled "Blind Man's Buff," by Mr. Arthur J. Elsley, which is an excellent reproduction of an original oil painting exhibited in the Royal Academy in 1910. The full size of the gravure is 24×20 inches and of the paper 37×32 inches. We have also received two other reproductions of pictures (unframed) entitled "Tales of the Deep," by Mr. Joseph Clark (exhibited in the Royal Academy, 1910), and "Babes in the Wood," by Mr. Fred Morgan. Messrs. C. W. Faulkner and Co., Limited, London, are to be congratulated upon the excellence of the reproductions.

POSOLOGICAL HINTS.

THE Fellows Company of New York, the proprietors of Fellows' compound syrup of hypophosphites, has issued a very useful compilation under the title of "Some Posological Hints and other Useful Information." The pamphlet opens with a section on the absorption and elimination of various drugs used in everyday practice, followed by a table of incompatibles. Next is given a broad classification of drugs (diuretics, cathartics, anthelmintics, and so forth), and finally a trustworthy table giving the overdose symptoms of drugs. Space is found also for recording the names of the authorities from whom the printed statements are taken.

THE "PHILIPSON" SANATORIUM FOR CHILDREN.

THE medical report, by Dr. T. M. Allison, of this institution, situated at Stannington, Northumberland, shows that the health of the children generally has been good during the year ending Oct. 31st, 1910. Much attention is paid to defective teeth. Through the generosity of Sir W. H. Stephenson, Lord Mayor of Newcastle, a new wing for cases of localised tuberculosis is being built. Much care has been devoted to consumptive cases, with, on the whole, gratifying results.

R.G.—Certainly not; the spirit of the regulations is opposed to it.

Lex.—We cannot trace any legal decision bearing on the matter.

G. S. F. W.—The condition is unknown to medical science.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced for 1911:—

Feb. 20th–25th (Cairo).—Fifth International Congress for the Blind.
March 2nd–6th (Berlin).—Thirty-second Balneological Congress.
" 23rd (Paris).—First Congress of French Medical Journalists.
April (Berlin).—German Surgical Congress. (Thirty-ninth Annual Meeting.)
April 4th–7th (London).—Fourth Annual Nursing and Midwifery Conference and Exhibition.
April 18th–20th (Paris).—Third Congress of Physiotherapy of French-speaking Physicians.
" 19th–22nd (Wiesbaden).—Twenty-eighth German Congress of Internal Medicine.
" 20th–22nd (Groningen).—Thirteenth Nature and Medical Congress.
May 30th (The Hague).—International Congress on Opium.
May–October (Dresden).—International Hygiene Exhibition.
May–October (London, Crystal Palace).—Festival of Empire Imperial Exhibition. (Profits to King Edward VII. Hospital Fund.)
May–October(?) (London, Shepherd's Bush).—Coronation Exhibition.
June (Paris).—First Congress of the International Medical Association for the Prevention of War.
" (Los Angeles, Cal.).—American Medical Association.
June 5th–8th (Kolberg, Prussia).—Fifth International Congress of Thalassotherapy.
June and July (Romford).—Town Planning and Modern House and Cottage Exhibition.
July (Birmingham).—British Medical Association.
July 24th–29th (Belfast).—Congress of the Royal Sanitary Institute.
August 15th–21st (Dublin).—Royal Institute of Public Health.
August or September (Berlin).—Third International Laryngo-Rhinological Congress.
September (Brussels).—Exhibition of Fractures.
" (Turin).—International Congress of Pathology.
" (Genoa).—International Exhibition of Marine Hygiene.
Sept. 11th–15th (Berlin).—National Congress for the Study and Prevention of Infantile Mortality (*Goutte de Lait*).
" 11th–16th (The Hague).—Thirteenth International Congress on Alcoholism.
" 18th–23rd (Sydney).—Australasian Medical Congress.
" 18th–24th (Turin).—Fourth National Congress of Hygiene.
" 24th–30th (Rome).—International Congress on Tuberculosis.
" 25th–29th (Rome) Seventh International Congress of Dermatology and Syphilology.
October (Cologne).—International Congress of Criminal Anthropology.
Oct. 1st–4th (Liége).—Second Congress of Alimentation.
Dec. 4th–9th (Havana, Cuba).—American Public Health Association.
(Date not fixed) (Montreal).—Canadian Medical Association.
(Date not fixed) (Rome).—International Exhibition of Social Hygiene.
(Date uncertain) (Turin).—International Exhibition of Industry and Labour.

In 1912:—

Spring (London).—Second Optical Convention.
July (?) (Cologne).—International Congress of Nurses.
September (Prague).—International Congress of Radiology and Medical Electrology.
September (Berlin).—Sixth International Congress of Obstetrics and Gynæcology.
" Visit of German Medical Men to America.
Nov. 22nd–29th (Washington, D.C.).—Fifteenth International Congress of Hygiene and Demography.

In 1913:—

(London).—Seventeenth International Congress of Medicine.
(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)
(Dresden (?)).—International Conference on Cancer.
(Washington).—Congress of American Physicians and Surgeons.
August (Buffalo).—Fourth International Congress of School Hygiene.

In 1914:—

(Vienna).—Third International Congress for Professional Diseases.

In 1915:—

(London).—International Prison Congress.
(London).—Imperial Exhibition (?)

THE following journals, magazines, &c., have been received:—*Journal of Inebriety, Guy's Hospital Gazette, National Health, Medical and Surgical Papers of the Massachusetts General Hospital (October, 1910), Rivista Ospedaliera, Official Gazette of the United States Patent Office, Auckland Weekly News, Pioneer Mail, Finchley Press, Bulletin de la Société Royale des Sciences Médicales et Naturelles de Bruxelles, Medical Bulletin of the University of Pennsylvania, St. George's Hospital Review, St. Bartholomew's Hospital Journal, Canadian Journal of Medicine, Journal of the Royal Institute of Public Health, Maryland Medical Journal, Berliner Klinische Wochenschrift, Clinical Journal, Gazette Hebdomadaire des Sciences Médicales, La Belgique Médicale, Times of India, Army and Navy Gazette, Broad Arrow.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 11th, 1911.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan.	5	30·09	N.E.	0·03	42	41	37	37	37	Overcast
"	6	29·85	S.W.	0·01	46	44	37	39	40	Cloudy
"	7	30·17	N.W.	0·25	49	45	35	35	35	Fine
"	8	30·36	S.W.	0·02	52	50	35	42	45	Overcast
"	9	30·28	S.W.	0·13	52	52	45	49	49	Raining
"	10	30·53	N.W.	0·14	57	45	38	37	39	Fine
"	11	30·93	S.W.	...	46	45	39	41	43	Raining

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

TUESDAY.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION (Hon. Secretaries—H. Charles Cameron, H. H. Dale): at 4.30 P.M.

Dr. Clive Riviere: The Rôle of Auto-inoculation in Medicine: a Plea for its Rational Extension.

Dr. A. P. Beddard: Some Points in the Treatment of Pneumonia.

PATHOLOGICAL SECTION (Hon. Secretaries—C. Bolton, J. C. G. Ledingham): at 8.30 P.M.

Dr. J. P. Candler: The Incidence of Gallstones and of Primary Carcinoma of the Gall Bladder and Biliary Passages in the Insane.

Mr. H. Seidelin: Demonstration of Certain Protozoan-like Bodies in the Blood Organs of Yellow Fever Cases.

Dr. H. R. Dean: Studies in Complement-fixation with the Typhoid and Paratyphoid Group.

Dr. W. J. Penfold: Variability in the Gas-producing Power of Intestinal Bacteria.

Mr. S. G. Shattock: Microscopic Structure of Uric Acid Calculi.

WEDNESDAY.

SURGICAL SECTION (Hon. Secretaries—Jonathan Hutchinson, L. A. Dunn): at 5.30 P.M.

Adjourned Debate:

On the Operative Treatment of Cancer of the Rectum. The following gentlemen will take part:—Mr. A. Boyce Barrow, Mr. F. C. Wallis, Mr. P. Furnivall, and Mr. Lockhart Mummery.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—H. G. Adamson, J. H. Sequeira), at 11, Chandos-street, W.: at 5 P.M.

Exhibition of Cases.

NEUROLOGICAL SECTION (Hon. Secretaries—E. Farquhar Buzzard, Wilfred Harris): at 8.30 P.M.

Dr. F. E. Batten: The Progressive Spinal Muscular Atrophies of Infants and Young Children (illustrated on the epidiascope by photographs and microscopical sections).

FRIDAY.

OTOLOGICAL SECTION (Hon. Secretaries—H. J. Marriage, Sydney Scott), at 11, Chandos-street, W.: at 5 P.M.

Cases and Specimens

Will be shown by Dr. W. Milligan, Mr. Arthur Cheatle and Mr. G. J. Jenkins, Dr. G. C. Cathcart, and Mr. Chichele Nourse.

Paper:

Mr. C. Ernest West: The Bacteriology of Chronic Post-nasal Catarrh: a Preliminary Study of Fifty Cases.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretaries—Reginald Morton, G. Harrison Orton): at 8.30 P.M.

Mr. J. Hall-Edwards: The Treatment of Cancer by X Rays and Radium (followed by a Discussion to be opened by Dr. Frank Fowler).

ROYAL METEOROLOGICAL SOCIETY, Institution of Civil Engineers, Great George-street, Westminster, S.W.

WEDNESDAY.—7.30 P.M., Ordinary Meeting. 7.45 P.M., Annual General Meeting. Report of the Council for 1910. Election of the Council for 1911. Mr. H. Mellish (President): The Present Position of British Climatology.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Prof. J. A. Thomson (President): Annual Address.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Adjourned Discussion on Sir Rubert Boyce's paper on Yellow Fever in West Africa.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. T. C. Fox: Clinique (Skin). 5.15 P.M., Lecture:—Dr. T. Thompson: Anæsthesia as an Aid in Diagnosis

TUESDAY.—4 P.M., Dr. G. N. Pitt: Clinique (Medical). 5.15 P.M., Lecture:—Dr. N. Raw (Liverpool): Modern Methods of Treatment of Tuberculosis.

WEDNESDAY.—4 P.M., Mr. T. P. Legg: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. A. McNab: Myopia.

THURSDAY.—4 P.M., Mr. A. Carless: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. J. Clarke: Treatment of Certain Common Fractures.

FRIDAY.—4 P.M., Mr. R. H. Bickerton: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon: Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Armour: Drainage in Abdominal Surgery.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M.: Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Throat and Ear Diseases (Clinical Lecture I.).

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine (Lecture I.).

THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Lecture: Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Davis: Throat and Ear Diseases (Clinical Lecture II.)

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Clinical (with cases).

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture: Mr. Turner: Operative Wounds and Injuries.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. R. Carling: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 4.30 P.M., Special Lecture:—Dr. Lister: Bronchial Affections in Children.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4.30 P.M., Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. E. Gillespie), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient: (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Mr. E. Gillespie: Talipes and its Treatment.

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY AND FRIDAY.—3.30 P.M., Clinical Demonstration:—Dr. J. Taylor.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.

TUESDAY.—5.15 P.M., Demonstration:—Mr. H. A. T. Fairbank: Deformities—Genu Valgum; Genu Varum; Curved Tibiæ; Flat-Foot. (Special Post-Graduate Course.)

THURSDAY.—4 P.M., Lecture:—Dr. Thursfield: Purpura.

FRIDAY.—5.15 P.M., Demonstration:—Mr. H. A. T. Fairbank: Deformities—Congenital Talipes. (Special Post-Graduate Course.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Acne Vulgaris in its Three Stages—I., Comedo; II., Indurata; III., Necrotica.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

TUESDAY.—3 P.M., Prof. F. W. Mott: Heredity. (Lecture I.).

FRIDAY.—9 P.M., Prof. Sir James Dewar: Chemical and Physical Change at Low Temperatures.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. E. B. Leech: Visceroptosis. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.) Hospitals operations are performed daily.

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